

Post-Dredge / Existing Conditions Report

New Bedford Harbor Dredge Project Phase III

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**Submitted For:
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Post-Dredge / Existing Conditions Report

New Bedford Harbor Dredge Project – Phase III

February 2010

1.0 Introduction

This Report of Existing Conditions has been prepared by Apex Companies, LLC for the New Bedford Harbor Development Commission (NBHDC) upon completion of the New Bedford Phase III Dredge Project. The New Bedford Harbor Dredge Project – Phase III included construction of CAD Cell #2 in two phases (Top of CAD and Bottom of CAD) and the maintenance dredging of portions of the New Bedford Rowing Facility boat basin, Packer Marine, Tonnesson Park, South Terminal, Gifford Street Boat Ramp, Niemiec Marine in New Bedford, Massachusetts and Linberg Marine, Olde North Wharf Fisheries, Fairhaven Shipyard, Steamship Authority, Union Wharf, Warren Alexander (South) in Fairhaven, Massachusetts. Work for NBHDC was completed under contract numbers HDC-FY08-006, HDC-FY08-007, HDC-FY09-001A and HDC-FY09-001B (Steamship Authority dredging was contracted privately).

2.0 Background

The City of New Bedford and the Town of Fairhaven are located on the south coast of Massachusetts between Cape Cod and Fall River, Massachusetts. New Bedford Harbor is an approximately mile-long, narrow, protected embayment that stretches from the mouth of the Acushnet River (at the north), to a large hurricane dyke and flood control structure at the entrance to Buzzards Bay (on the south). Historically, New Bedford Harbor was one of the dominant shipping ports on the east coast. During the 19th Century, textile mills and manufacturing facilities were built on the edge of the Harbor to take advantage of the access to the working waterfront. Electrical transformer manufacturing industries moved into the New Bedford Harbor waterfront area and operated from the 1940's to 1970's. With this electronic component manufacturing came new types of waste discharge into the Harbor. Polychlorinated Biphenyl (PCB) contaminated oils and byproducts made their way into the Harbor through sewer lines and other outfalls, contaminating the sediments on the bottom of the Harbor. By the 1970s, sediment sampling and testing conducted by environmental officials revealed that significant concentrations of metals and PCBs existed in the Harbor bottom sediments.

From the 1970s to the 1990s, the U.S. Environmental Protection Agency (USEPA) and the Massachusetts Department of Environmental Protection (MassDEP) studied the nature and extent of the contamination in the harbor, collecting the information required to develop a remedy for the problem. In 1998, the USEPA signed the Record of Decision (ROD) for the New Bedford Harbor Superfund Site, which prescribed that the remedy for the Harbor would be focused on the removal of contaminated sediments with PCB concentrations in excess of cleanup standards set for various locations within the Harbor. The cleanup standards varied depending upon the location of the contamination: 50 parts per million (ppm or mg/kg) was designated for deeper water areas, where direct contact was not likely; 10 ppm was designated for mudflat and shallow water areas accessible at low tide; 25 ppm was designated for beach combing shoreline areas; and 10 ppm was designated for residential shoreline areas. This designation effectively split the Harbor into two categories: those areas with sediments exceeding the cleanup standards where contaminated sediments would be removed by the USEPA; and those sediments with PCB concentrations below the cleanup standards that would be left in place. This remedy was presented in the ROD (see Section 2.3 below).

Because of the presence of contaminants in most of the sediments from the bottom of New Bedford Harbor, and the high cost and uncertainty of dealing with those contaminated sediments, maintenance dredging of Harbor areas for navigation has not occurred for over 40 years. As a result, sediment has collected in many critical areas within the Harbor: from the Federal Navigational Channel, to the slips and berthings at the piers, to the fairways and driveways of the Harbor wharf areas. As a result, many of the businesses that utilize the pier and wharf areas have experienced a decrease in the amount and type of vessels that can be accommodated. In order to maintain their existing maritime uses, and offer opportunities for growth and development, the City of New Bedford, the Town of Fairhaven, and the New Bedford Harbor Development Commission (NBHDC) have made maintenance dredging of critical Harbor areas a priority for the new millennium.

2.1 New Bedford Harbor Dredge – Phase I

The first phase of the New Bedford Harbor dredge project began with the deepening of the slip on the south side of the New Bedford State Pier in New Bedford Harbor, and the fairway and a portion of the channel leading up to the Pier. This project was identified by the City of New Bedford as a critical element in the revitalization of the working waterfront, as the City was actively trying to attract new and larger vessels to the City. Sediment build-up at the State Pier had precluded the use of the pier by some of the larger deep draft vessels the City was attempting to attract. Work on Phase I began in 2001, and dredging of the project area was completed by the end of 2002. For this project, approximately 75,000 yards of contaminated sediment was dredged from the area to the south of the State Pier and the fairways leading there-to. The material was dewatered and stabilized with a lime and cement mixture, and was placed on the CSX Rail Site next to New Bedford Harbor. The placed material was utilized to cap areas of the rail-yard site that contained levels of PCB contamination greater than the dredged sediments, utilizing the “anti-degradation” provision (310 CMR 40.0030) in the Massachusetts Contingency Plan. The dredged material was placed into berms around the edge of the rail-yard site, covered with topsoil and seeded with grass. The first phase of the dredging was done without the use of the State Enhanced Remedy (see Section 2.3).

2.2 New Bedford Harbor Dredge - Phase II

The New Bedford Harbor Dredge Project – Phase II included the maintenance dredging of portions of Maritime Terminal, Norpel Terminal, Whites Terminal, South-of-Route 6 Bridge, and Niemiec Marine in New Bedford, Massachusetts, and the Warren Alexander Property, D.N. Kelley & Son, Linberg Marine, and Pease Park properties, in Fairhaven, Massachusetts. These properties were included in the Phase II Dredge Project because of their need for dredging to remove shoaled sediment, and the economic benefit the area would receive from the increase in commerce. Bathymetric soundings of the areas of interest had been collected by Apex, and that information was compared with bathymetric charts and other data previously collected by the U.S. Army Corps of Engineers (USACE) and the US Environmental Protection Agency (USEPA). The data indicated that the conditions in the noted dredge areas represented a safety issue for certain types of vessels that visit those piers and wharfs. In order to address this situation, the New Bedford Harbor Development Commission and the Town of Fairhaven (through the NBHDC), decided to undertake the New Bedford Harbor Dredge Project – Phase II to deepen the aforementioned areas.

One of the most challenging aspects of the Phase II Dredge Project was identifying a suitable disposal alternative for the dredged contaminated sediments. During the late 1990’s and into 2003, MACZM had undertaken a State-wide Dredge Materials Management Plan (DMMP) in order to address the issue of the disposal of contaminated dredge materials, which many of the Cities and Towns within the Commonwealth were wrestling with. As part of the State-wide DMMP study, MACZM evaluated the placement of Confined Aqueous Disposal (CAD) Cells in several harbors, including New Bedford

Harbor. After evaluation, MACZM determined that CAD Cells represented a viable sediment disposal alternative for New Bedford Harbor. After completion of a feasibility study and a siting analysis that evaluated several potential CAD Cell locations within the Harbor, MACZM determined that the most advantageous location for CAD Cells in New Bedford Harbor was the area to the north of Popes Island in the middle portion of New Bedford Harbor. A permitting program was undertaken by MACZM that involved all relevant resource and regulatory agencies, and resulted in the area to the north of Popes Island in New Bedford Harbor being permitted for CAD Cells for maintenance dredge materials.

Upon review of the viable sediment disposal options for maintenance dredge material, the New Bedford Harbor Dredge Project – Phase II project team determined that CAD Cells within New Bedford Harbor represented the most viable option for disposal of the maintenance dredge material from the Phase III Dredge Project. Design of CAD Cell #1 was completed by Apex, and the disposal of maintenance dredge materials from the Phase II Dredge project dredge areas was allowed for disposal in the newly designed CAD Cells.

The Phase II Dredge Project included the design and construction of a transitional Confined Aquatic Disposal (CAD) Cell located within the Borrow Pit as well as the design and construction of CAD Cell #1, located adjacent to the Borrow Pit. Clean sediment generated during construction of CAD Cell #1 was used to cap portions of OU-3, located immediately outside of the Hurricane Barrier. The New Bedford Harbor Phase II Dredge Project began in January 2005 and was completed in two parts: the initial area of dredging occurred on the north side of Fish Island in New Bedford Harbor; the second part involved dredging at the remainder of the North Terminal area and other Fairhaven areas. The NBHDC completed Phase II harbor maintenance dredging in January 2006, removing more than 156,000 cubic yards (cy) of material from sites in New Bedford and Fairhaven.

2.3 Permitting – State Enhanced Remedy (SER)

Because contaminated sediments exist over much of the bottom of New Bedford Harbor, the usual navigational dredging process would simply not work. Upland disposal of the million or so total cubic yards of material that will ultimately need to be removed from the Harbor to keep it fully functional was not an option, both from a cost standpoint (costs for upland disposal would have been prohibitive), and from a logistics standpoint (there simply was not a local disposal site that could accommodate the volumes). Also, because of the PCB contamination, the USEPA signed a Record of Decision (ROD) for the remediation of the New Bedford Harbor Superfund Site in 1998. The ROD included a provision called the State Enhanced Remedy (SER) [see 40CFR300.515(f)], which allowed for certain maintenance dredging to fall within the Superfund process. The MassDEP requested that the SER be included in the ROD and was endorsed by the City of New Bedford, Massachusetts Executive Office of Environmental Affairs (EOEA), and the local state representatives. The SER provision allowed for maintenance dredging to occur without following the full permitting process usually required for maintenance dredge projects. This streamlining of the approval process for individual dredge projects, and the adoption of a programmatic approach to maintenance dredging in New Bedford Harbor has allowed maintenance dredging to move forward, and allowed the New Bedford Harbor Dredge Project – Phase III to be completed.

The State Enhanced Remedy (SER) under the New Bedford Harbor Superfund Site requires oversight management by MassDEP, with coordination with a number of Federal, State and Local authorities including MassDEP, USACE, USEPA, the National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Division of Marine Fisheries (DMF), Massachusetts Coastal Zone Management (MACZM), EOEA, and the Coalition for Buzzards Bay. The SER process requires the completion of As-Built Plans and the submission of After-Action Submittals after the completion of dredge projects completed under the SER.

Under the SER, NBHDC and Apex discuss project plans and performance standards with the Resource Agencies mentioned above. Project plans and performance standards were reviewed and updated after receiving comments from the Resource Agencies. The NBHDC and Apex attended meetings between Resource Agencies and prepared and submitted planning and information documents for use by Resource Agencies.

The NBHDC and Apex prepared and submitted planning and information documents for applicable Resource Agencies under the SER. These documents included a Project Work Plan, a Sampling and Analysis Plan, project plans and proposed dredge footprints, and a specifications package. Prior to completion of planning documents, Apex discussed project plans with the Town of Fairhaven, the NBHDC and Resource Agencies to determine any requirements and/or concerns that needed to be covered under the information documents. The NBHDC and Apex worked closely with the MassDEP Project Manager to expedite conversations between agencies. The NBHDC and Apex addressed any comments made by agencies and revised documents as necessary.

The NBHDC and Apex conducted the necessary regulatory interface with MassDEP during the course of this work. Regulatory interface was required to ensure that the SER process was followed and that the sampling and analysis activities conducted were consistent with the enhanced remedy. The MassDEP Project Manager was the regulatory point-of-contact for the NBHDC and Apex, and interacted with USEPA and the other State resource agencies as appropriate to ensure that all agencies were afforded appropriate review of SER submittals (i.e. SAP) and input regarding project planning. As part of the regulatory interface the MassDEP field oversight during the dredging.

2.4 Dredge Area Engineering

The New Bedford Harbor Phase III Dredge Project began in September 2006 and was completed in four parts: the removal of the top of CAD Cell #2 (with the placement of the material within CAD Cell #1), the dredging of clean sediment from within CAD Cell #2 (with disposal of some material at the Cape Cod Bay Disposal Site and some material used as a pilot cap for the Borrow Pit CAD Cell), the dredging of areas north of the Coggeshall Street Bridge (Phase III Navigational Dredge – Part B), and the dredging of areas south of the Coggeshall Street Bridge (Phase III Navigational Dredge – Part A).

The navigational dredging portion of the project, totaled sixteen separate dredge footprints at eleven separate properties (See also Figure 1), including:

- Packer Marine – 2,288 cy
- Niemiec Marine – 2,312 cy
- South Terminal – 2,691 cy
- Gifford Street Boat Ramp – 10,880 cy
- New Bedford Rowing Facility – 4,190 cy
- Tonnesson Park – 1,266 cy
- Olde North Wharf Fisheries – 1,403 cy
- Fairhaven Shipyard – 344 cy
- Union Wharf – 1,109 cy
- Linberg Marine – 1,773 cy
- Warren Alexander (South) – 2,142 cy
- Steamship Authority – 22,381 cy
- Summary Total Phase III Navigational Dredging: 52,779 cy

As part of the dredging project, CAD Cell #2 was constructed. CAD Cell #2 was sited immediately to the north of the Borrow Pit CAD Cell and CAD Cell #1, north and northwest of Pope's Island. The construction of the CAD Cell proceeded as two separate projects, with 34,210 cy of material presumed to be impacted with PCBs excavated from the top of the CAD Cell and placed within CAD Cell #1. Subsequent to the removal of the Top of CAD Cell material, 120,060 cy of material was excavated and transported to the Cape Cod Bay Disposal Site to finish creation of CAD Cell #2. CAD Cell #2 received sediment from the Phase III dredge sites in New Bedford and Fairhaven, with some additional capacity reserved for future use. The dredging for Phase III was completed in September of 2009, when the last of the Phase III dredging at South Terminal and Gifford Street Boat Ramp were completed.

Under this contract and Dredge Project, Apex has submitted the following documents to the New Bedford Harbor Development Commission:

- Pre-Design Investigations Work Plan: August 2006
- Pre-Design Investigations Sampling and Analysis Plan: August 2006
- Pre-Design Investigations Site Specific Health and Safety Plan: August 2006
- CAD Cell Siting and Pre-Design Investigations Work Plan: April, 2007
- CAD Cell Siting and Pre-Design Investigations Sampling and Analysis Plan: June, 2007
- Top of CAD Cell Subsurface Data Conditions Report: May 2008
- Top of CAD Cell, Plans and Specifications: May 2008
- Top of CAD Contractor Oversight Plan (COP): May 2008
- Top of CAD Water Quality Monitoring Plan: May 2008
- Top of CAD Site Specific Health and Safety Plan: May 2008
- Steamship Authority, Plans and Specifications: May 2008
- Bottom of CAD Cell Subsurface Data Conditions Report: June 2008
- Bottom of CAD Cell, Plans and Specifications: June 2008
- Steamship Authority Contractor Oversight Plan (COP): July 2008
- Steamship Authority Water Quality Monitoring Plan: July 2008
- Steamship Authority Site Specific Health and Safety Plan: July 2008
- Bottom of CAD Contractor Oversight Plan (COP): August 2008
- Bottom of CAD Water Quality Monitoring Plan: August 2008
- Bottom of CAD Site Specific Health and Safety Plan: August 2008
- Navigational Dredging Subsurface Data Conditions Report for New Bedford Harbor Dredge – Phase III: January 2009
- New Bedford Harbor Navigational Dredge Phase III – Part A, Plans and Specifications – January 2009
- New Bedford Harbor Navigational Dredge Phase III – Part B, Plans and Specifications – January 2009
- Navigational Dredging Contractor Oversight Plan: February 2009
- Navigational Dredging Site Specific Health and Safety Plan: February 2009
- Navigational Dredging Water Quality Monitoring Plan: February 2009

2.5 Monitoring and Oversight

Throughout the Dredge Project, Apex made sure the work was monitored order to ensure that work progressed smoothly and as safely as possible, in line with the Healthy and Safety Plan. A member of Apex personnel was at the site and directly involved with overseeing the project.

In order to monitor the success and progress of the work itself, bathymetric surveys were conducted in excavation and placement areas. The scow location during placement and dewatering of the scows were also closely monitored. Apex personnel used a Global Positioning System (GPS) to double check that scows were placed in the correct locations.

Additionally, as a means of monitoring the sediment of the maintenance material, several methods of examination were used on a regular basis. Sediment probes were utilized in order to measure the thickness of the maintenance material. Vibracores were used as a way of surveying the benthic organisms present in the sediment. Furthermore, chemical analyses were performed before and after dredging events to monitor the levels of various chemicals that may have been present before and after dredging.

3.0 Construction

The NBHDC managed and oversaw the construction activities. Construction operations were performed in such a manner as to comply with the specific performance criteria established during the design phase of the project. Where possible, the intent was to allow the contractor to determine appropriate means and methods of construction, subject to the controls and performance criteria contained in the project specifications. Proposed means and methods and adherence to design and performance criteria were evaluated using the pre-construction submittal review process. A control plan to ensure conformance to performance criteria was a Contractor submittal requirement.

3.1 Construction Oversight – CAD Cells

CAD Cell construction as well as CAD Cell filling operations were subject to operational controls developed during Phase II project design and updated and continued for utilization during Phase III. Project-specific water quality criteria developed by MassDEP with the assistance of other Resource Agencies that participate in the State Enhanced Remedy applied to CAD Cell construction, filling operations, as well as dredging and other operations (such as sediment dewatering). Means and methods for discharge of materials into CAD Cell were developed to ensure compliance with water quality criteria. The discussions between MassDEP, and USACE and USEPA (as part of the design process) regarding previous projects were valuable relative to evaluating discharge requirements. Methods evaluated included use of split hull barges, as well as placement of sediment into the cell using clamshell equipment. Some combination of operational controls were required during filling operations, such as use of silt curtains down-gradient or around the active CAD cell or dredge area, use of oil-absorbent booms, discharge at depth vs. at surface, etc. Details were determined during the design process, and were modified as necessary during construction operations.

3.1.1 CAD Cell Construction

The project involved the construction of CAD Cell #2, a 92,000 cubic yard CAD cell north and northwest of Pope's Island in New Bedford Harbor. CAD Cell #2 was located to the north of the Borrow Pit CAD Cell as well as CAD Cell #1. Dredging of the top of CAD Cell #2 and placement of material in CAD Cell #1 began in June 2008, operating 24 hours a day, and was completed in July of 2008. Dredging of the bottom of CAD Cell #2 and placement of material as a pilot cap on the Borrow Pit CAD Cell or disposal of material at the Cape Cod Bay Disposal site began in August of 2008 and was completed in October of 2008. The material removed during Bottom of CAD had been tested for standard offshore disposal chemical parameters, and the material had been designated as acceptable offshore disposal at the Cape Cod Bay Disposal Site by the USACE. The construction of the CAD cell was an important aspect of the project because PCB contaminated material located throughout the harbor were removed as part of the New Bedford Harbor Dredge Project – Phase III and disposed of in the CAD cell.

During the dredging, Apex provided resident engineering services and acted as Owner's Representative for construction oversight and Quality Control of the project to ensure all phases were performed expeditiously and in accordance with the plans and specifications. The initial scope of work for this project included pre-engineering studies, design, and implementation of the sampling and analysis program.

Apex performed a preliminary engineering evaluation during the planning phase of the project. These activities included; establishing preliminary dredge limits with associated volume estimates for the construction of the CAD cell, research and evaluation of disposal options including off-shore disposal in the USACE Cape Cod Bay Disposal Site (CCBDS) and/or the placement of the material as a cap over the Borrow Pit, upland disposal, use of the material as beach nourishment, use of the material for capping at OU-3, and the preparation of a preliminary conceptual methodology for the project.

Apex conducted a sediment sampling and analysis program of the proposed dredge area in addition to completing multiple bathymetric surveys, detailed sediment characterization, and cultural and hazard identification survey utilizing a complimentary suite of marine geophysical techniques, including side-scan sonar, sub-bottom profiling, and marine magnetics.

3.2 Construction Oversight – Dredge Areas

3.2.1 Dredge Area Introduction

Establishment of performance standards, including water quality criteria, mandated dredging operations. Dredge methods were selected to achieve water quality standards. Dredging of material required implementation of controls such as use of an environmental (sealed) bucket, silt curtains, oil absorbent booms, reduced cycle times, etc. Specifications and requirement details were determined through the design process. In accordance with the New Bedford Harbor Development Commission – Phase III work plan, Apex completed navigational dredging at locations (listed below) within New Bedford Harbor.

3.2.2 Dredge Area Descriptions

The New Bedford Harbor Dredge Project – Phase III included construction of CAD Cell #2 in two phases (Top of CAD and Bottom of CAD) and the maintenance dredging of portions of the New Bedford Rowing Facility boat basin, Packer Marine, Tonnesson Park, South Terminal, Gifford Street Boat Ramp, Niemiec Marine in New Bedford, Massachusetts and Linberg Marine, Olde North Wharf Fisheries, Fairhaven Shipyard, Union Wharf, Steamship Authority, and Warren Alexander (South) in Fairhaven, Massachusetts. The work performed is described below:

Top of CAD Cell #2

Soft organic maintenance-type material was removed from the surface of the New Bedford CAD Cell #2. The initial excavation at the (removal of contaminated organics) CAD cell was dredged from an average elevation of between -4 MLLW and -7 MLLW to an average depth of between -6 and -9 MLLW. Dredged material from CAD Cell #2 was placed into CAD Cell #1, a CAD Cell created during the New Bedford Harbor Dredge Project – Phase II, but had not been completely filled during that project. It was intended that the remaining space within CAD Cell #1 be reserved for the top of CAD Cell #2. Similarly, space within CAD Cell #2 will be reserved for the top of a future CAD Cell. Approximately 34,210 cy of material was excavated and disposed of within CAD Cell #1 as part of this portion of the project. The Top of CAD Cell project began on June 13, 2008 and was completed on July 13, 2008. Top of CAD Cell Drawings are attached as Figures 1 through 4.

Steamship Authority

The first navigational dredging project completed during Phase III was the dredging of the Steamship Authority Terminal in Fairhaven, Massachusetts. The Steamship Authority pier is located on the southern end of the Designated Port Area of Fairhaven, Massachusetts. It is a filled pier that has docking on both the northern and southern sides of the pier. The work at the facility was part of a larger project that involved rehabilitation of the facility, installation of sheet piling and a new storage and office facility. Dredging at Steamship Authority began on July 31, 2008 and ended on September 11, 2008. At the time that Steamship Authority dredging commenced, CAD Cell #2 was not complete; however, there was sufficient space within CAD Cell #1 (after placement of the Top of CAD Cell #2) for the dredge material from Steamship Authority. Therefore, the dredge spoils from Steamship Authority were placed within CAD Cell #2. Both the northern and southern footprints were dredged to -15 MLLW. Steamship Authority Drawings are attached as Figures 5 through 6.

Bottom of CAD Cell #2

On August 26, 2008, dredging to complete the excavation of CAD Cell #2 to its full capacity began. 120,060 cubic yards of clean material was excavated from within the CAD footprint to create the desired disposal volume space, and the clean material removed from the CAD footprint was either barged to the Cape Cod Bay Disposal Site (CCBDS) or to the Borrow Pit, where it was placed over a portion of the CAD Cell as a pilot cap. The excavation and disposal/capping was completed on October 9, 2008. Bottom of CAD Cell Drawings are attached as Figures 7 through 10.

Navigational Dredge – Part B

On March 20, 2009, work began on Part B of the Phase III Navigational Dredge Project. The Navigational Dredge Project was broken into two parts that were bid separately due to logistical issues associated with Part B that required a separate set of equipment from that within Part A. Specifically, the work within Part B was to take place north of the Route 195 and Coggeshall Street Bridges, within the Upper New Bedford Harbor. The clearance under these bridges is extremely low, and required specific modifications to equipment (including ballasting scows to lower their elevation) in order to complete the work. It was anticipated that Part A of Navigational Dredging would require more conventional techniques, and therefore it seemed prudent to bid the work out separately. The only dredge footprint that was completed during Part B of Navigational Dredging was the New Bedford Rowing Facility footprint. That footprint was dredged to -5 MLLW, and 4,190 cubic yards of material were removed and placed within CAD Cell #2. Part B of Navigational Dredging was completed on April 14, 2009.

Navigational Dredge – Part A

Part A of the Phase III Navigational Dredge Project included the remaining navigational dredging properties, including Packer Marine, Tonnesson Park, South Terminal, Gifford Street Boat Ramp, and Niemiec Marine in New Bedford and Linberg Marine, Olde North Wharf Fisheries, Fairhaven Shipyard, Union Wharf, and Warren Alexander (South) in Fairhaven. The selected contractor for Part A chose to move from dredge footprint to dredge footprint frequently. As a result, it is difficult to list start and end dates for individual footprints; however, Part A as a whole began on April 20, 2009 and was completed on September 24, 2009. The following is a table outlining the target dredge depth and volume dredged for each of the Part A locations:

Dredge Area	Dredge Volume (cy)	Target Dredge Depth(s) (MLLW)
Gifford Street Boat Ramp	10,880	-7 and -9
South Terminal	2,691	-20
Tonnesson Park	1,266	-6, -8, and -15
Niemiec Marine	2,312	-10
Packer Marine	2,288	-14
Linberg Marine	1,773	-10
Olde North Wharf Fisheries	1,403	-6, -10 and -12
Fairhaven Shipyard	344	-17 and -18
Union Wharf	1,109	-8 and -16
Warren Alexander (South)	2,142	-13 and -15

The Pre-Dredge Drawings for Part A and Part B of Navigational Dredging are attached as Figures 11 through 20. The Post-Dredge Drawings for Part A and Part B of Navigational Dredging are attached as Figures 21 through 32. The total volume dredged as part of the New Bedford Harbor Dredge Project – Phase III was 207,049 cubic yards.

4.0 Post-Dredge Conditions

Following the completion of the Dredge Project, further monitoring was conducted as a means of examining the conditions of the dredge areas post-construction. Re-sampling and surveying were completed to verify that sustainable conditions were present in the Harbor. Samples of sediment were collected and analyzed for the presence of PCBs. Bathymetric surveys were conducted by Apex, in an effort to confirm Apex’s findings. Conditions necessary to resolve contract issues were met and satisfied in order to come to project closure.

4.1 Sediment Chemistry: Pre- and Post-Dredge

The following sections describe sampling and analysis activities that were conducted prior to dredging of the Phase III dredge areas and sampling and analysis that occurred after the dredging in order to document post-dredge conditions.

4.1.1 Pre-Dredge Sediment Chemistry

Prior to the start of dredging, sediment samples were collected in order to characterize background conditions of sediment chemistry within the proposed dredge footprints. The samples were analyzed for PCBs, via the 21 NOAA congeners. The 18 NOAA Congeners were selected from the 21 analyzed congeners, were added and multiplied by 2.6 (a factor identified by USEPA as a good correlation between the 18 congeners and a “total PCBs” number) in order to calculate total PCBs in sediment. Seventeen pre-dredge samples were collected from the various footprints within Part A and Part B of Navigational Dredging. Some data collected by USEPA (during its investigation into the New Bedford Superfund Site) was utilized to characterize the dredge material within the New Bedford Rowing Facility footprint. In addition to PCBs, some samples were also collected and analyzed for the following constituents: MassDEP EPH, RCRA 8 Metals, and reactive sulfide. Of all the pre-dredge PCB levels recorded, the highest value was 370 ppm (within a sample collected by USEPA within the New Bedford Rowing Facility Footprint). South of the Coggeshall Street Bridge, the highest concentration was 61.3 ppm (collected within the Packer Marine footprint). The range of PCB levels that was recorded was 0.2 ppm to 370 ppm. Pre-Dredge analytical data is summarized within Tables 1 through 5. Pre-Dredge

analytical data reports are attached within Appendix A. Pre-Dredge sample locations are indicated on Figures 33 through 41.

4.1.2 Post-Dredge Sediment Chemistry

In an effort to compare Post-Dredge sediment PCB impacts with Pre-Dredge conditions, and evaluate the improvement of particular areas, Apex sampled the sediment after dredging was complete and recorded the remaining conditions. After dredging was complete, eight sediment samples were collected, all being tested for PCBs. Again, NOAA Congener reporting was used, which is consistent with the pre-dredge method, and the summation of the 18 NOAA congeners was calculated in accordance with USEPA's methodology (via summation and multiplication by a factor of 2.6) to generate a Total PCB result. Therefore, comparison of PCB levels provides an accurate representation of the Pre- and Post- dredge difference. Each Post-Dredge sediment sample collected indicated a decrease (or no change) in PCB concentrations in sediment. The highest reported value of PCBs recorded from the post-dredge samples was 37.1 ppm, from a sample taken in the New Bedford Rowing Facility area (north of the Coggeshall Street Bridge). The Pre-Dredge sample results from this location ranged from 4.3 ppm to 370 ppm. The overall range of PCB levels among the Post-Dredge samples was found to be 0.03 ppm to 37.1 ppm. Post-Dredge analytical data is summarized within Table 6. Post-Dredge analytical data reports are attached within Appendix A. Post-Dredge sample locations are indicated on Figures 33 through 41.

The following table outlines the Pre-Dredge sampling results and compares them to the Post-Dredge Sampling results:

PRE-DREDGE AND POST DREDGE SAMPLE RESULTS

Location	Pre-Dredge PCB Result (ppm)			Post-Dredge PCB Result (ppm)		
	Sample ID	Date	Result	Sample ID	Date	Result
Gifford Street Boat Basin	VC-05-08	11/13/2008	7.7	POST_012010_G1	1/20/2010	2.1
	VC-16-08 (0-1.5')	11/21/2008	7.0			
Tonnesson Park	VC-07C-08	11/17/2008	22.1	POST_012010_TP2	1/20/2010	0.03
Union Wharf	325 0-1	10/25/2006	17.0	POST_012010_UW1	1/20/2010	5.0
	321 0-1	10/25/2006	4.6			
Packer Marine	VC_24-08 (0-1')	11/24/2008	61.3	POST_012010_PACK1	1/20/2010	0.1
New Bedford Rowing Facility	S-3613-2.1-2.6	8/20/2001	370	POST_012010_BHB1	1/20/2010	37.1
	S-3613-2.6-3.1	8/20/2001	4.3			
	S-205316	None Listed	83			
Olde North Wharf Fisheries	309 0-1	10/24/2006	4.4	POST_012010_ONWF1	1/20/2010	1.8
	310 0-1	10/24/2006	13.2			
	311 0-1	10/24/2006	5.3			
Steamship Authority	329 0-1	10/23/2006	7.2	Steamship Composite 1	8/5/2009	3.4
	330 0-1	10/23/2006	18.0			
	331 0-1	10/25/2006	0.2	POST_012010_SA1	1/20/2010	0.2
	332A 0-1	10/23/2006	0.2			

4.1.3 PCB Mass Removal Calculations

In order to attempt to quantify the mass of PCBs that has been removed during Steamship Authority, Part A and Part B of Phase III Navigational Dredging several sets of calculations were completed. PCB mass is a relatively qualitative measure for determining the environmental benefit created during sediment removal and therefore, there is no one specific methodology for calculating the mass removed. Several methodologies were considered before utilizing the methodology outlined below. The Pre-Dredge concentrations were averaged over the area of a footprint. For the New Bedford Rowing Facility, data was available from USEPA along a vertical profile (instead of multiple locations at the surface). Due to relatively high concentrations at this location, and it's relative influence over the total mass removed, it was determined to average over the vertical profile of the pre-dredge samples, rather than to average the shallowest sample with the post-dredge sample; as a result, instead of averaging the pre- and post-dredge analytical data, the data was subtracted instead. It was assumed (for the purposes of this exercise) that the difference between the two concentrations would be representative of the concentration of the dredged sediment, since an average over the vertical profile had already been included within the calculations for the New Bedford Rowing Facility. The difference was then multiplied by the final dredge volume, which was assumed to have a density of 1.5 tons per cubic yard. The final mass was calculated in pounds of PCBs removed. The following chart shows the calculated masses and the total estimated mass removed.

Estimate of PCB Mass Removed (Phase III Navigational Dredging)

Dredge Area	Final Volume (CY)	Pre-Dredge Conc. (mg/kg)	Post (mg/kg)	Difference (mg/kg)	Mass Removed (lbs)
South Terminal	2,691	7.35	2.1	5.3	42
Union Wharf	1,109	10.8	5	5.8	19
Tonnesson Park	1,266	22.1	0.03	22.1	84
Gifford Street Boat Ramp	10,880	7.35	2.1	5.3	171
Olde North Wharf Fisheries (North)	1,295	8.8	1.8	7.0	27
Warren Alexander (South)	2,142	12.6	3.4	9.2	59
Olde North Wharf Fisheries (South)	108	5.3	1.8	3.5	1.1
Niemiec Marine	2,312	1.2	N/A	N/A	N/A
Fairhaven Shipyard	344	N/A	N/A	N/A	N/A
Linberg Marine	1,773	N/A	N/A	N/A	N/A
Packer Marine	2,288	61.3	0.1	61.2	420
New Bedford Rowing Facility	4,190	152.4	37.1	115.3	1450
Steamship Authority North	5,686	12.6	3.4	9.2	157
Steamship Authority South	16,695	0.222	0.206	0.02	0.8
Total Mass Removed:					2,432

5.0 Monitoring Results

The water quality was monitored during CAD Cell construction, and during the dredging and material placement operations for the New Bedford Harbor Dredge – Phase III from June 13, 2008 through August

25, 2009. Water quality monitoring was performed in accordance with the following Water Quality Monitoring Plans (WQMP):

- Top of CAD Water Quality Monitoring Plan: May 2008
- Steamship Authority Water Quality Monitoring Plan: July 2008
- Bottom of CAD Water Quality Monitoring Plan: August 2008
- Navigational Dredging Water Quality Monitoring Plan: February 2009

Following the guidelines of the respective WQMP, monitoring locations for water turbidity recorded an average turbidity over various water depths, up and down-current from the dredge or material placement operations, depending on tide. The values recorded as the Reference Site Turbidity were taken from up-current monitoring locations, or from monitoring events which occurred before dredge or material placement operations began. The Reference Turbidity Value was then compared to down-current turbidity values measured at regular time intervals after operations had begun.

The monitoring results were broken up into 5 periods of dredging and material placement that Apex oversaw in New Bedford Harbor during Phase III of the State Enhanced Remedy Dredge Project (Top of CAD, Steamship Authority, Bottom of CAD, Part B of Navigational Dredging and Part A of Navigational Dredging). At each monitoring location, various samples around the area were taken in order to get a thorough indication of water quality.

The Top of CAD project took place between June 13, 2008 and July 13, 2008 and included approximately 34,210 cubic yards of material being dredged from the area in which CAD Cell #2 was to be constructed, and placed into CAD Cell #1. In monitoring the water quality, no exceedances of the WQMP turbidity guidelines was detected for either dredging or disposal operations.

The Steamship Authority navigational dredge project took place between July 31, 2008 and September 11, 2008 and involved the dredging areas north and south of the Steamship Authority pier and placement of that material within CAD Cell #1. This portion of the project involved dredging 22,381 cubic yards of material. In monitoring the water quality for the dredging, no exceedances of the WQMP turbidity guidelines were detected for either dredging or disposal operations. On 8/26/08, turbidity measurements at the Steamship Authority down-current location [18.47 NTU] were 18.17 NTU higher than the measurements at the up-current location [0.3 NTU]. This event represented the greatest difference between up-current and down-current turbidity monitoring detected during Phase III dredging; however, the difference was not greater than the WQMP turbidity guidelines [which stipulates that if the reference site turbidity is less than 10 NTU, that the permissible turbidity increase is no more than the reference plus 20 NTU].

The Bottom of CAD project took place between August 26, 2008 and October 9, 2008 and involved the excavation of clean material from CAD Cell #2, and the use of that material either during the placement of a pilot cap at the Borrow Pit or the transportation and disposal of the material at the Cape Cod Bay Disposal Site (CCBDS). In monitoring the water quality, no exceedances of the WQMP turbidity guidelines was detected for Bottom of CAD operations.

The Navigational Dredge – Part B project took place between March 20, 2009 and April 14, 2009 and involved the dredging of 4,190 cubic yards from the New Bedford Rowing Facility area and the placement of that material within CAD Cell #2. In monitoring the water quality, exceedances of the WQMP turbidity guidelines were not detected for the Navigational Dredge – Part B operations.

The Navigational Dredge – Part A project took place between April 20, 2009 and September 24, 2009 and involved the dredging of 26,208 cubic yards from Packer Marine, Tonnesson Park, South Terminal, Gifford Street Boat Ramp, and Niemiec Marine in New Bedford and Linberg Marine, Olde North Wharf Fisheries, Fairhaven Shipyard, Union Wharf, and Warren Alexander (South) in Fairhaven and the placement of that material within CAD Cell #2. In monitoring the water quality, exceedances of the WQMP turbidity guidelines were not detected for the Navigational Dredge – Part A operations.

Copies of the water quality monitoring sheets completed in the field are attached as Appendix B. Water quality monitoring data is summarized within Table 7.

TABLES

Table 1:
Analytical Data: Linberg Marine
Phase III Harbor Maintenance Dredge Program
New Bedford, Massachusetts

		Extractable Petroleum Hydrocarbons (µg/kg)																				
Sample Name	Collection Date	C9-C18 Aliphatics	C19-C36 Aliphatics	C11-C22 Aromatics	Unadjusted C11-C22 Aromatics	Naphthalene	2-Methylnaphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo(a)anthracene	Chrysene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Indeno(1,2,3-cd)pyrene	Dibenzo(a,h)anthracene	Benzo(g,h,i)perylene
307A 0-1	39013	300000	1300000	310000	320000	830	830	830	830	830	830	830	1000	2000	990	890	1300	830	920	1700	1700	830
308 0-1	39013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Metals (mg/kg)							
Arsenic	Barium	Cadmium	Chromium	Lead	Selenium	Silver	Mercury
5.9	32	4.4	260	190	1.4	1.8	0.94
NS	NS	NS	NS	NS	NS	NS	NS

		PCB Congeners (µg/kg)																					
Sample Name	Collection Date	C12-BZ#5/#8	C13-BZ#18	C13-BZ#28/#31	C14-BZ#44	C14-BZ#52	C14-BZ#43/#49	C14-BZ#66	C15-BZ#101/#84	C15-BZ#87	C17-BZ#184	C15-BZ#105	C15-BZ#118	C17-BZ#183	C16-BZ#167/#128	C16-BZ#138/#163	C16-BZ#153	C17-BZ#170/#190	C17-BZ#180	C17-BZ#182/#187	C18-BZ#195	C19-BZ#206	C10-BZ#209
307A 0-1	10/23/2006	87	300	1500	370	570	620	740	920	270	0.31	290	760	29	130	540	460	54	100	66	9.2	19	3.8
308 0-1	10/23/2006	14	33	190	39	84	94	84	120	32	0.24	36	110	4.1	20	80	80	8.3	12	9.6	1.1	1.6	1.1

Summation of Congeners (mg/kg) [NOAA 18]	Reactive Sulfide (mg/kg)
18.0	150
2.4	NS

Notes:
U = Concentration is below the laboratory's method detection limit.
NS = Not sampled.

Table 2:
Analytical Data: Olde North Wharf Fisheries
Phase III Harbor Maintenance Dredge Program
New Bedford, Massachusetts

		Extractable Petroleum Hydrocarbons (µg/kg)																				
Sample Name	Collection Date	C9-C18 Aliphatics	C19-C36 Aliphatics	C11-C22 Aromatics	Unadjusted C11-C22 Aromatics	Naphthalene	2-Methylnaphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo(a)anthracene	Chrysene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Indeno(1,2,3-cd)pyrene	Dibenzo(a,h)anthracene	Benzo(g,h,i)perylene
309 0-1	10/24/2006	48000	300000	100000	110000	650	650	650	650	650	650	650	860	1800	650	650	650	650	650	1300	1300	650
310 0-1	10/24/2006	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
311 0-1	10/24/2006	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Metals (mg/kg)							
Arsenic	Barium	Cadmium	Chromium	Lead	Selenium	Silver	Mercury
6	160	1	56	360	1	1	0
NS	NS	NS	NS	NS	NS	NS	NS
NS	NS	NS	NS	NS	NS	NS	NS

		PCB Congeners (µg/kg)																					
Sample Name	Collection Date	C12-BZ#5/#8	C13-BZ#18	C13-BZ#28/#31	C14-BZ#44	C14-BZ#52	C14-BZ#43/#49	C14-BZ#66	C15-BZ#101/#84	C15-BZ#87	C17-BZ#184	C15-BZ#105	C15-BZ#118	C17-BZ#183	C16-BZ#167/#128	C16-BZ#138/#163	C16-BZ#153	C17-BZ#170/#190	C17-BZ#180	C17-BZ#182/#187	C18-BZ#195	C19-BZ#206	C10-BZ#209
309 0-1	10/24/2006	26	57	330	73	160	180	140	240	61	0	65	200	7	36	150	140	15	24	16	2	3	2
310 0-1	10/24/2006	85	260	1100	280	420	420	460	700	220	0	210	530	19	98	420	350	42	65	46	6	5	3
311 0-1	10/24/2006	29	65	390	95	170	200	190	300	78	0	81	240	9	43	180	160	20	32	21	3	3	1

Summation of Congeners (mg/kg) [NOAA 18]
4.4
13.2
5.3

Reactive Sulfide (mg/kg)
190
NS
NS

Notes:
U = Concentration is below the laboratory's method detection limit.
NS = Not sampled.

Table 3:
Analytical Data: Union Wharf
Phase III Harbor Maintenance Dredge Program
New Bedford, Massachusetts

		Extractable Petroleum Hydrocarbons (µg/kg)																				
Sample Name	Collection Date	C9-C18 Aliphatics	C19-C36 Aliphatics	C11-C22 Aromatics	Unadjusted C11-C22 Aromatics	Naphthalene	2-Methylnaphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo(a)anthracene	Chrysene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Indeno(1,2,3-cd)pyrene	Dibenzo(a,h)anthracene	Benzo(g,h,i)perylene
321 0-1	10/25/2006	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
325 0-1	10/25/2006	880000	2200000	1000000	1100000	1000	1000	1000	1000	1000	2400	1200	8500	10000	5700	5200	5600	2400	4100	3700	3700	2800

Metals (mg/kg)							
Arsenic	Barium	Cadmium	Chromium	Lead	Selenium	Silver	Mercury
NS	NS	NS	NS	NS	NS	NS	NS
20	330	5.1	200	3000	3.0	1.2	7.3

		PCB Congeners (µg/kg)																					
Sample Name	Collection Date	C12-BZ#5/#8	C13-BZ#18	C13-BZ#28/#31	C14-BZ#44	C14-BZ#52	C14-BZ#43/#49	C14-BZ#66	C15-BZ#101/#84	C15-BZ#87	C17-BZ#184	C15-BZ#105	C15-BZ#118	C17-BZ#183	C16-BZ#167/#128	C16-BZ#138/#163	C16-BZ#153	C17-BZ#170/#190	C17-BZ#180	C17-BZ#182/#187	C18-BZ#195	C19-BZ#206	C10-BZ#209
321 0-1	10/25/2006	24	68	270	82	120	110	140	170	45	0.28	46	97	43	22	180	180	77	170	96	18	8.8	0.36
325 0-1	10/25/2006	73	150	720	220	370	320	350	940	280	0.37	250	620	120	150	810	870	210	440	300	42	33	9.4

Summation of Congeners (mg/kg) [NOAA 18]
4.6
17.0

Reactive Sulfide (mg/kg)
NS
79

Notes:
U = Concentration is below the laboratory's method detection limit.
NS = Not sampled.

Table 4:
Analytical Data: Steamship Authority Pre-Dredge Locations
Phase III Harbor Maintenance Dredge Program
New Bedford, Massachusetts

		PCB Congeners (µg/kg)																				Summation of Congeners (mg/kg) [NOAA 18]		
		C12-BZ#5/#8	C13-BZ#18	C13-BZ#28/#31	C14-BZ#44	C14-BZ#52	C14-BZ#43/#49	C14-BZ#66	C15-BZ#101/#84	C15-BZ#87	C17-BZ#184	C15-BZ#105	C15-BZ#118	C17-BZ#183	C16-BZ#167/#128	C16-BZ#138/#163	C16-BZ#153	C17-BZ#170/#190	C17-BZ#180	C17-BZ#182/#187	C18-BZ#195		C19-BZ#206	C110-BZ#209
Sample Name	Collection Date																							
329 0-1	10/23/2006	48	87	540	120	260	290	220	370	90	0.7 U	97	310	18	57	240	260	37	69	46	7.3		7.3	1.7
330 0-1	10/23/2006	140	260	1300	340	600	620	600	930	260	2.4 U	250	680	56	140	580	570	110	210	140	26.0		22.0	6.3
331 0-1	10/25/2006	2	3	14	4	8	9	6	12	2	0.33 U	3	9	2	3	8	10	2	4	3	0.33 U	0.33 U	0.33 U	
332A 0-1	10/23/2006	2	3	14	4	7	8	5	11	3	0.19 U	3	8	1	2	7	8	1	3	2	0.7	0.19 U	0.3	

Notes:
U = Concentration is below the laboratory's method detection limit.
NS = Not sampled.

Table 5:
Analytical Data: Additional Pre-Dredge Locations
Phase III Harbor Maintenance Dredge Program
New Bedford, Massachusetts

		Extractable Petroleum Hydrocarbons (µg/kg)																				
Sample Name	Collection Date	C9-C18 Aliphatics	C19-C36 Aliphatics	C11-C22 Aromatics	Unadjusted C11-C22 Aromatics	Naphthalene	2-Methylnaphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo(a)anthracene	Chrysene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Indeno(1,2,3-cd)pyrene	Dibenzo(a,h)anthracene	Benzo(g,h,i)perylene
VC-07G-08	11/17/2008	25000	213000	152000	185000	803 U	803 U	803 U	803 U	803 U	3790	803	6330	5250	2920	3180	2740	2470	2520	2040	803	1880
VC-21-08 (0-1')	11/24/2008	116000	919000	499000	517000	926 U	926 U	926 U	926 U	926 U	1290	926 U	2740	2890	1400	1670	1640	1660	1890	1330	926 U	1330

		Metals (mg/kg)							
Sample Name	Collection Date	Arsenic	Barium	Cadmium	Chromium	Lead	Selenium	Silver	Mercury
VC-05-08	11/13/2008	4.58	20	1.59	82.7	64.4	0.729	0.793	0.283
VC-07C-08	11/17/2008	6.6	87.2	8.01	86.5	547	0.744	11.9	0.803
VC-16-08	11/21/2008	8.22	44.4	0.948	57.7	107	1.2	0.524	0.641
VC-19-08	11/24/2008	9.39	83.5	5.31	707	265	1.57	3.74	0.907
VC-23-08	11/24/2008	1.98	4.54	0.128	16.1	15.3	0.269	0.146	0.0345
VC-24-08	11/24/2008	13.6	92.1	6.27	442	508	1.94	2.67	1.4

		PCB Congeners (µg/kg)																						
Sample Name	Collection Date	C12-BZ#5#8	C13-BZ#18	C13-BZ#28/#31	C14-BZ#44	C14-BZ#52	C14-BZ#43/#49	C14-BZ#66	C15-BZ#101/#84	C15-BZ#87	C17-BZ#184	C15-BZ#105	C15-BZ#118	C17-BZ#183	C16-BZ#167/#128	C16-BZ#138/#163	C16-BZ#153	C17-BZ#170/#190	C17-BZ#180	C17-BZ#182/#187	C18-BZ#195	C19-BZ#206	C110-BZ#209	
VC-05-08	11/13/2008	39.7	166	529	156	296	209	184	359	127	1.13 U	127	386	10.8	72.5	320	224	29.9	38.3	23.8	2.47	3.49	1.35	
VC-07C-08	11/17/2008	576	1490	2150	656	1240	620	285	504	174	1.03 U	143	390	23.2	97.3	400	309	57	90.9	66.9	9.52	16.5	2.77	
VC-16-08 (0-1.5')	11/21/2008	17.2	95.9	153	145	340	132	96.9	207	207	1.22 U	163	478	13.8	108	464	300	41.8	50.1	27.2	1.22 U	6.62	3.85	
VC-19-08 (0-1')	11/24/2008	205	1430	4830	1340	2530	1860	1880	2520	704	1.22 U	677	2420	77.6	407	1800	1390	196	260	154	15.3	20.9	6.53	
VC-23-08 (0-2')	11/24/2008	3.83	27.7	96.4	29.0	71.1	58.2	31.0	49.3	7.96	0.871 U	9.31	49.4	1.73	9.29	37.3	38.4	5.97	6.52	4.20	6.65	0.871 U	0.871 U	
VC_24-08 (0-1')	11/24/2008	307	1890	4890	1980	3620	2440	1340	2410	499	16.5 U	452	2230	80	417	1780	1500	210	294	200	18.8	39.2	16.5	

Summation of Congeners (mg/kg) [NOAA 18]
7.7
22.1
7.0
57.4
1.2
61.3

Notes:
U = Concentration is below the laboratory's method detection limit.
NS = Not sampled.

Table 6:
Analytical Data: Post-Dredge Sample Results
Phase III Harbor Maintenance Dredge Program
New Bedford, Massachusetts

		PCB Congeners (µg/kg)																				Summation of Congeners (mg/kg) [NOAA 18]		
Sample Name	Collection Date	C12-BZ#5#8	C13-BZ#18	C13-BZ#29#31	C14-BZ#44	C14-BZ#52	C14-BZ#43#49	C14-BZ#66	C15-BZ#101#84	C15-BZ#87	C17-BZ#184	C15-BZ#105	C15-BZ#118	C17-BZ#183	C16-BZ#167#128	C16-BZ#138#163	C16-BZ#153	C17-BZ#170#190	C17-BZ#180	C17-BZ#182#187	C18-BZ#195		C19-BZ#206	C110-BZ#209
POST_012010_G1	1/20/2010	20.4	64.8	204	58.5	129	70.3	25.0	75.7	0.954 U	0.954 U	25.3	76.9	0.954 U	10.4	66.7	30.4	7.11	7.56	4.11	0.954 U		0.954 U	0.954 U
POST_012010_TP2	1/20/2010	1.08 U	1.08 U	1.08 U	1.08 U	1.08 U	1.08 U	1.08 U	1.08 U	1.08 U	1.08 U	1.08 U	1.08 U	1.08 U	1.08 U	1.08 U	1.08 U	1.08 U	1.08 U	1.08 U	1.08 U		1.08 U	1.08 U
POST_012010_UW1	1/20/2010	30.1	192	397	112	218	92.1	42.4	158	2.10 U	2.10 U	70.3	170	9.25	41.0	209	102	45.5	67.9	54.1	2.10 U		2.10 U	2.10 U
POST_012010_PACK1	1/20/2010	0.923 U	1.74	8.85	1.98	5.71	4.04	4.04	4.46	0.923 U	0.923 U	0.923 U	2.96	0.923 U	0.923 U	2.58	2.48	0.923 U	0.923 U	0.923 U	0.923 U		0.923 U	0.923 U
POST_012010_BHB1	1/20/2010	568	1780	4900	1590	2530	1620	466	756	0.988 U	0.988 U	140	631	6.06	39.4	413	356	31.8	30.3	28.7	0.988 U		4.35	1.74
POST_012010_ONWF1	1/20/2010	8.68	47.0	143	49.3	92.8	50.7	17.6	72.8	0.965 U	0.965 U	21.2	77.2	0.965 U	19.7	80.4	37.0	4.90	11.3	6.66	0.965 U		0.965 U	0.965 U
POST_012010_SA1	1/20/2010	0.925 U	0.925 U	18.4	0.925 U	15.2	6.46	2.28	8.49	0.925 U	0.925 U	0.925 U	10.8	0.925 U	0.925 U	10.4	8.73	0.925 U	0.925 U	0.925 U	0.925 U		0.925 U	0.925 U
Steamship Composite 1	8/5/2009	1.49 U	1.49 U	1.49 U	1.49 U	173	84.2	55.5	60.9	59.8	1.49 U	98.1	189	17.3	76.4	313	144	42	81.9	45.7	11.8		7.7	2.31

Notes:
U = Concentration is below the laboratory's method detection limit.
NS = Not sampled.
1). When a compound is below the laboratory's method detection limit, 1/2 of the method detection limit is utilized in calculating the Summation of Congeners.

TABLE 7 - NEW BEDFORD HARBOR DREDGE - PHASE III

Water Quality Monitoring - Turbidity Measurements

June 12, 2008 -- August 25, 2009

Date	Time of Up Current	Average of Up Current	Time of Down Current	Average of Down Current	Difference (Down Current - Up Current)	Time of Disposal Location	Average of Disposal Location	Project Title	Project and/or Location
06/13/08	11:15	0.00	10:45	0.00	0.00	-	-	TOP of CAD II	TOP of CAD II
06/14/08	7:20	0.00	8:25	0.23	0.23	-	-	TOP of CAD II	TOP of CAD II
06/14/08	10:15	0.90	10:35	2.00	1.10	-	-	TOP of CAD II	TOP of CAD II
06/14/08	12:40	0.00	12:50	1.00	1.00	-	-	TOP of CAD II	TOP of CAD II
06/14/08	16:30	2.03	16:55	1.17	-0.87	-	-	TOP of CAD II	TOP of CAD II
06/16/08	16:45	14.63	16:30	0.00	-14.63	17:00	1.29	TOP of CAD II	CAD I (Disposal Only)
06/19/08	8:00	6.07	8:30	2.17	-3.90	-	-	TOP of CAD II	TOP of CAD II
06/19/08	12:00	23.43	12:30	4.23	-19.20	12:05	1.77	TOP of CAD II	CAD I (Disposal Only)
06/24/08	7:50	0.07	8:00	0.20	0.13	-	-	TOP of CAD II	TOP of CAD II
06/24/08	10:00	0.57	10:10	0.23	-0.33	-	-	TOP of CAD II	TOP of CAD II
06/26/08	10:05	1.67	10:10	0.47	-1.20	-	-	TOP of CAD II	TOP of CAD II
06/26/08	11:50	0.67	11:55	3.17	2.50	-	-	TOP of CAD II	TOP of CAD II
06/26/08	18:00	0.00	18:05	6.60	6.60	-	-	TOP of CAD II	TOP of CAD II
06/26/08	16:00	0.00	16:07	5.10	5.10	-	-	TOP of CAD II	TOP of CAD II
06/30/08	7:00	0.00	7:10	0.27	0.27	-	-	TOP of CAD II	TOP of CAD II
06/30/08	16:10	4.33	16:05	0.23	-4.10	-	-	TOP of CAD II	TOP of CAD II
06/30/08	14:25	2.87	14:20	2.73	-0.13	-	-	TOP of CAD II	TOP of CAD II
06/30/08	12:15	6.87	12:20	2.10	-4.77	-	-	TOP of CAD II	TOP of CAD II
06/30/08	10:00	0.63	10:04	1.70	1.07	-	-	TOP of CAD II	TOP of CAD II
07/03/08	15:40	4.17	15:55	6.13	1.97	-	-	TOP of CAD II	TOP of CAD II
07/03/08	13:30	5.50	13:35	4.93	-0.57	-	-	TOP of CAD II	TOP of CAD II
07/03/08	12:20	1.77	12:40	3.60	1.83	12:30	20.97	TOP of CAD II	CAD I (Disposal Only)
07/03/08	10:40	0.00	10:45	4.50	4.50	-	-	TOP of CAD II	TOP of CAD II
07/03/08	8:40	15.03	8:45	6.00	-9.03	-	-	TOP of CAD II	TOP of CAD II
07/03/08	6:46	0.83	6:55	0.97	0.13	6:50	6.77	TOP of CAD II	CAD I (Disposal Only)
07/08/08	12:00	0.30	12:10	1.53	1.23	12:25	7.17	TOP of CAD II	CAD I (Disposal Only)
07/08/08	10:05	14.33	10:23	7.60	-6.73	-	-	TOP of CAD II	TOP of CAD II
07/08/08	7:40	0.93	7:45	0.87	-0.07	-	-	TOP of CAD II	TOP of CAD II
07/08/08	7:05	3.10	7:25	2.10	-1.00	7:32	19.13	TOP of CAD II	CAD I (Disposal Only)
07/31/08	7:10	0.40	7:20	0.20	-0.20	-	-	Steamship	Steamship
07/31/08	9:10	8.86	9:25	0.10	-8.76	-	-	Steamship	Steamship
07/31/08	11:10	1.15	11:17	0.00	-1.15	-	-	Steamship	Steamship
07/31/08	14:18	0.30	14:25	5.26	4.96	-	-	Steamship	Steamship
07/31/08	16:45	2.43	16:35	0.43	-2.00	-	-	Steamship	Steamship
08/04/08	12:00	2.53	12:35	0.53	-2.00	12:25	-	Steamship	CAD I (Disposal Only)
08/05/08	7:40	0.26	7:50	0.00	-0.26	-	-	Steamship	Steamship
08/05/08	9:40	1.33	9:50	1.63	0.30	-	-	Steamship	Steamship

TABLE 7 - NEW BEDFORD HARBOR DREDGE - PHASE III

Water Quality Monitoring - Turbidity Measurements

June 12, 2008 -- August 25, 2009

Date	Time of Up Current	Average of Up Current	Time of Down Current	Average of Down Current	Difference (Down Current - Up Current)	Time of Disposal Location	Average of Disposal Location	Project Title	Project and/or Location
08/05/08	12:00	22.40	12:10	2.53	-19.87	-	-	Steamship	Steamship
08/05/08	14:05	1.17	14:20	16.20	15.03	-	-	Steamship	Steamship
08/05/08	16:46	2.53	16:55	0.66	-1.87	16:45	-	Steamship	CAD I (Disposal Only)
08/07/08	10:00	0.00	10:30	0.00	0.00	-	-	Steamship	Steamship
08/07/08	11:45	0.03	12:00	0.83	0.80	-	-	Steamship	Steamship
08/07/08	14:20	0.00	14:30	0.93	0.93	-	-	Steamship	Steamship
08/07/08	15:30	0.00	15:55	6.70	6.70	0.65	-	Steamship	CAD I (Disposal Only)
08/07/08	17:15	0.00	17:25	0.00	0.00	-	-	Steamship	Steamship
08/08/08	7:15	0.00	7:25	0.00	0.00	-	-	Steamship	Steamship
08/08/08	13:30	0.16	13:40	11.07	10.91	-	-	Steamship	Steamship
08/08/08	15:45	0.30	16:01	0.93	0.63	-	-	Steamship	Steamship
08/11/08	8:50	4.00	8:40	0.00	-4.00	-	-	Steamship	Steamship
08/11/08	16:30	1.23	16:50	2.00	0.77	-	-	Steamship	Steamship
08/12/08	11:20	0.00	11:30	1.40	1.40	-	-	Steamship	Steamship
08/12/08	13:40	0.00	13:30	2.93	2.93	-	-	Steamship	Steamship
08/12/08	15:30	0.00	15:40	4.26	4.26	-	-	Steamship	Steamship
08/18/08	8:30	0.00	8:40	0.96	0.96	-	-	Steamship	Steamship
08/18/08	10:30	8.53	10:44	0.00	-8.53	-	-	Steamship	Steamship
08/18/08	12:30	5.93	12:40	2.97	-2.96	-	-	Steamship	Steamship
08/18/08	15:28	5.90	15:32	2.70	-3.20	-	-	Steamship	Steamship
08/18/08	17:34	0.83	17:40	2.97	2.14	-	-	Steamship	Steamship
08/21/08	9:50	1.03	10:15	0.13	-0.90	-	-	Steamship	Steamship
08/21/08	12:45	3.90	12:50	0.00	-3.90	-	-	Steamship	Steamship
08/21/08	14:59	5.53	14:50	0.63	-4.90	-	-	Steamship	Steamship
08/21/08	17:22	5.60	17:26	0.83	-4.77	-	-	Steamship	Steamship
08/21/08	16:04	2.20	17:04	2.86	0.66	16:00	-	Steamship	CAD I (Disposal Only)
08/26/08	7:00	4.10	7:10	0.50	-3.60	-	-	Steamship	Steamship
08/26/08	8:55	0.30	9:02	18.47	18.17	-	-	Steamship	Steamship
08/26/08	11:05	4.97	11:15	5.43	0.46	-	-	Steamship	Steamship
08/26/08	13:00	2.77	13:12	9.73	6.96	-	-	Steamship	Steamship
08/28/08	7:30	3.77	7:40	3.37	-0.40	-	-	Steamship	Steamship
08/28/08	9:30	5.10	9:35	6.30	1.20	-	-	Steamship	Steamship
08/28/08	11:40	2.67	11:35	6.27	3.60	-	-	Steamship	Steamship
08/28/08	15:35	10.10	15:28	6.50	-3.60	-	-	Steamship	Steamship
08/28/08	8:50	24.10	8:57	9.63	-14.47	-	-	Steamship	Steamship
09/03/08	9:00	1.03	9:11	6.57	5.54	-	-	Steamship	Steamship
09/03/08	11:25	1.00	11:32	16.13	15.13	-	-	Steamship	Steamship

TABLE 7 - NEW BEDFORD HARBOR DREDGE - PHASE III

Water Quality Monitoring - Turbidity Measurements

June 12, 2008 -- August 25, 2009

Date	Time of Up Current	Average of Up Current	Time of Down Current	Average of Down Current	Difference (Down Current - Up Current)	Time of Disposal Location	Average of Disposal Location	Project Title	Project and/or Location
09/03/08	13:52	1.47	13:44	1.27	-0.20	-	-	Steamship	Steamship
08/27/08	13:47	2.83	13:40	8.57	5.74	N/A ^{*2}	N/A ^{*2}	BOC II	BOC II
08/27/08	15:42	2.10	15:35	4.23	2.13	N/A ^{*2}	N/A ^{*2}	BOC II	BOC II
08/27/08	17:30	2.23	17:42	3.16	0.93	N/A ^{*2}	N/A ^{*2}	BOC II	BOC II
08/28/08	8:00	1.90	8:10	1.53	-0.37	N/A ^{*2}	N/A ^{*2}	BOC II	BOC II
08/28/08	10:30	4.23	10:24	3.17	-1.06	N/A ^{*2}	N/A ^{*2}	BOC II	BOC II
08/28/08	12:22	3.73	12:27	2.23	-1.50	N/A ^{*2}	N/A ^{*2}	BOC II	BOC II
08/28/08	14:45	9.00	14:50	1.83	-7.17	N/A ^{*2}	N/A ^{*2}	BOC II	BOC II
08/28/08	16:40	1.60	16:50	4.13	2.53	N/A ^{*2}	N/A ^{*2}	BOC II	BOC II
09/03/08	8:10	3.33	8:05	19.23	15.90	N/A ^{*2}	N/A ^{*2}	BOC II	BOC II
09/03/08	10:54	4.10	11:02	1.93	-2.17	N/A ^{*2}	N/A ^{*2}	BOC II	BOC II
09/03/08	13:05	1.63	13:17	9.13	7.50	N/A ^{*2}	N/A ^{*2}	BOC II	BOC II
09/11/08	8:22	1.63	8:49	4.67	3.04	N/A ^{*2}	N/A ^{*2}	BOC II	BOC II
09/11/08	10:40	1.67	10:32	1.63	-0.04	N/A ^{*2}	N/A ^{*2}	BOC II	BOC II
09/11/08	13:00	1.30	13:05	1.73	0.43	N/A ^{*2}	N/A ^{*2}	BOC II	BOC II
09/11/08	16:42	2.33	17:00	3.80	1.47	N/A ^{*2}	N/A ^{*2}	BOC II	BOC II
09/16/08	9:50	1.50	10:00	2.37	0.87	N/A ^{*2}	N/A ^{*2}	BOC II	BOC II
09/16/08	11:50	3.50	11:56	1.67	-1.83	N/A ^{*2}	N/A ^{*2}	BOC II	BOC II
09/16/08	14:41	10.20	14:30	3.60	-6.60	N/A ^{*2}	N/A ^{*2}	BOC II	BOC II
09/16/08	16:20	5.33	16:16	4.73	-0.60	N/A ^{*2}	N/A ^{*2}	BOC II	BOC II
09/18/08	11:40	1.13	11:50	2.10	0.97	N/A ^{*2}	N/A ^{*2}	BOC II	BOC II
09/18/08	15:36	3.20	15:45	3.57	0.37	N/A ^{*2}	N/A ^{*2}	BOC II	BOC II
03/23/09	* 1	1.45	* 1	1.85	0.40	-	N/A ^{*3}	PH III PART B	NBRF
03/25/09	11:25	1.10	12:25	3.59	2.49	12:15	N/A ^{*3}	PH III PART B	NBRF (Disposal Only)
03/27/09	12:20	0.40	12:30	0.30	-0.10	12:14	N/A ^{*3}	PH III PART B	NBRF (Disposal Only)
04/05/09	11:40	1.55	13:00	1.73	0.18	11:55	N/A ^{*3}	PH III PART B	NBRF (Disposal Only)
04/08/09	13:20	2.94	13:35	2.43	-0.51	13:25	N/A ^{*3}	PH III PART B	NBRF (Disposal Only)
04/10/09	14:15	1.10	14:50	1.33	0.23	14:25	N/A ^{*3}	PH III PART B	NBRF (Disposal Only)
04/13/09	14:20	1.04	14:45	1.75	0.71	-	N/A ^{*3}	PH III PART B	NBRF
04/14/09	17:00	3.63	17:30	2.39	-1.24	17:15	N/A ^{*3}	PH III PART B	NBRF (Disposal Only)
04/21/09	10:14	2.21	11:00	5.05	2.84	10:50	N/A ^{*3}	PH III PART A	Gifford St.
04/22/09	8:15	1.70	8:28	4.07	2.37	8:20	N/A ^{*3}	PH III PART A	Gifford St.
04/22/09	13:50	1.60	14:10	2.17	0.57	-	N/A ^{*3}	PH III PART A	Gifford St.

TABLE 7 - NEW BEDFORD HARBOR DREDGE - PHASE III

Water Quality Monitoring - Turbidity Measurements

June 12, 2008 -- August 25, 2009

Date	Time of Up Current	Average of Up Current	Time of Down Current	Average of Down Current	Difference (Down Current - Up Current)	Time of Disposal Location	Average of Disposal Location	Project Title	Project and/or Location
04/23/09	* 1	1.83	* 1	2.00	0.17	7:35	N/A ^{*3}	PH III PART A	Gifford St., South Terminal
04/24/09	8:35	1.43	9:35	1.73	0.30	9:25	N/A ^{*3}	PH III PART A	CAD II (Disposal only)
04/26/09	12:25	0.85	13:05	1.37	0.52	12:45	N/A ^{*3}	PH III PART A	Gifford St., South Terminal
05/04/09	11:30	3.02	* 1	1.22	-1.80	11:45	N/A ^{*3}	PH III PART A	CAD II (Disposal only)
05/06/09	11:45	1.70	12:00	1.80	0.10	11:50	N/A ^{*3}	PH III PART A	CAD II (Disposal only)
05/06/09	16:45	2.50	16:58	14.30	11.80	-	N/A ^{*3}	PH III PART A	Gifford St.
05/07/09	15:00	13.00	15:20	2.73	-10.27	-	N/A ^{*3}	PH III PART A	South Terminal
05/13/09	13:30	1.37	13:50	1.47	0.10	13:36	N/A ^{*3}	PH III PART A	CAD II (Disposal only)
05/14/09	8:20	0.60	8:45	2.27	1.67	8:35	N/A ^{*3}	PH III PART A	CAD II (Disposal only)
05/16/09	12:30	2.09	13:25	0.61	-1.48	-	N/A ^{*3}	PH III PART A	Union Wharf
05/20/09	14:00	21.60	14:20	3.19	-18.41	-	N/A ^{*3}	PH III PART A	Gifford St.
05/22/09	8:00	0.81	8:15	0.29	-0.52	8:05	N/A ^{*3}	PH III PART A	CAD II (Disposal only)
05/28/09	10:13	1.09	10:25	1.85	0.76	-	N/A ^{*3}	PH III PART A	Linberg Marine
05/28/09	14:00	1.06	14:45	1.71	0.65	14:20	N/A ^{*3}	PH III PART A	CAD II (Disposal only)
06/04/09	14:35	1.60	14:52	3.53	1.93	-	N/A ^{*3}	PH III PART A	Linberg Marine
06/04/09	16:20	1.90	16:55	3.13	1.23	16:35	N/A ^{*3}	PH III PART A	CAD II (Disposal only)
06/06/09	14:05	1.47	14:30	3.76	2.29	-	N/A ^{*3}	PH III PART A	Linberg Marine
06/14/09	8:40	3.07	9:15	3.17	0.10	8:50	N/A ^{*3}	PH III PART A	CAD II (Disposal only)
06/17/09	15:25	2.99	15:40	4.05	1.06	-	N/A ^{*3}	PH III PART A	WA-S
06/18/09	8:30	0.87	9:00	1.30	0.43	8:45	N/A ^{*3}	PH III PART A	CAD II (Disposal only)
06/22/09	11:15	1.66	11:35	1.04	-0.62	-	N/A ^{*3}	PH III PART A	ONWF
06/24/09	10:10	4.54	10:25	0.46	-4.08	-	N/A ^{*3}	PH III PART A	Gifford St.
07/01/09	14:40	2.88	15:17	3.83	0.95	-	N/A ^{*3}	PH III PART A	Gifford St.
07/02/09	16:45	2.28	17:15	5.23	2.95	-	N/A ^{*3}	PH III PART A	Gifford St.
07/08/09	11:55	1.93	12:15	1.83	-0.10	-	N/A ^{*3}	PH III PART A	NL
07/08/09	14:33	3.60	14:40	18.00	14.40	14:35	N/A ^{*3}	PH III PART A	CAD II (Disposal only)
07/10/09	9:30	0.73	10:15	1.05	0.32	-	N/A ^{*3}	PH III PART A	Packer Marine

TABLE 7 - NEW BEDFORD HARBOR DREDGE - PHASE III
Water Quality Monitoring - Turbidity Measurements

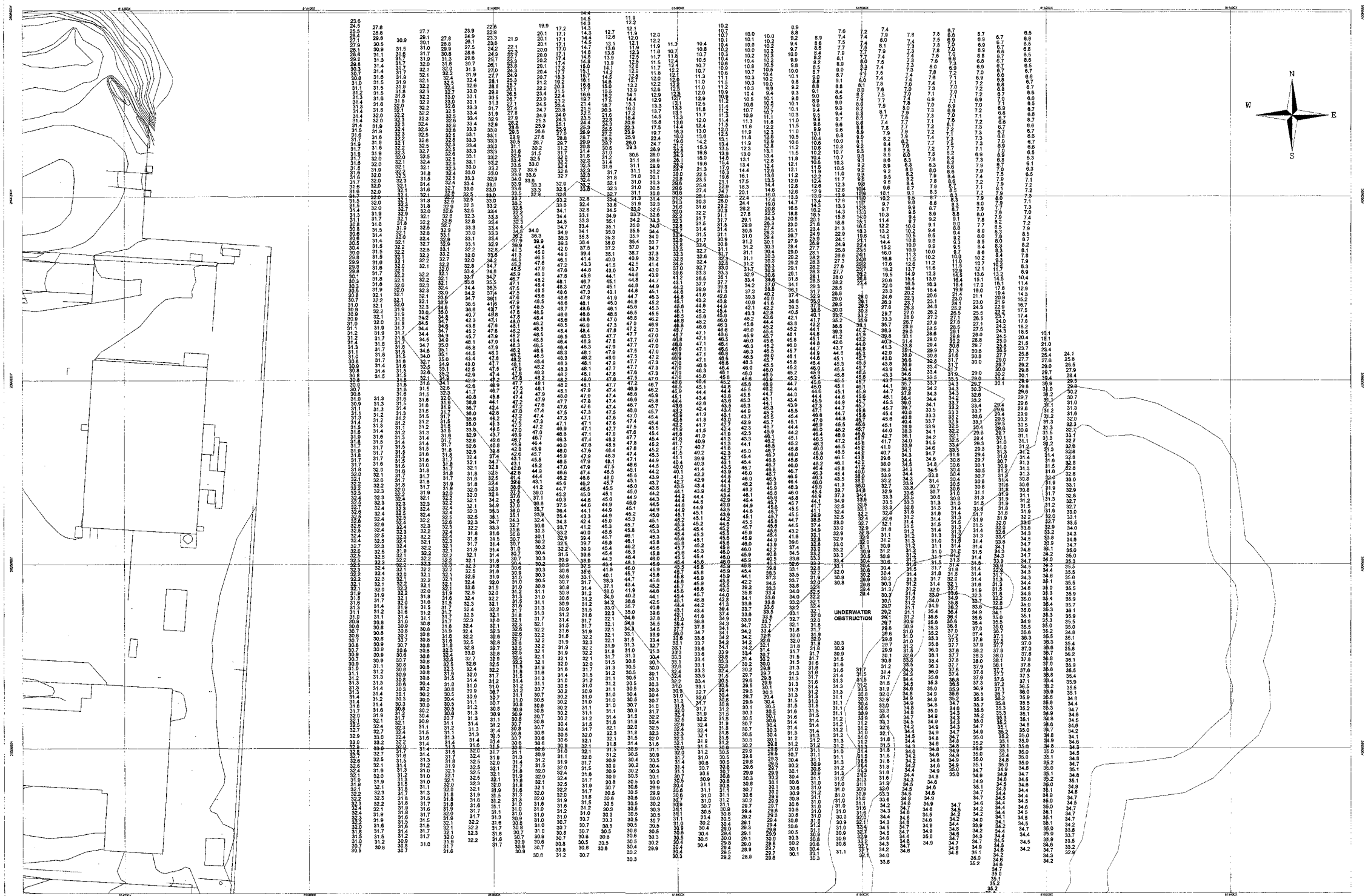
June 12, 2008 -- August 25, 2009

Date	Time of Up Current	Average of Up Current	Time of Down Current	Average of Down Current	Difference (Down Current - Up Current)	Time of Disposal Location	Average of Disposal Location	Project Title	Project and/or Location
07/15/09	13:58	1.97	14:05	5.57	3.60	-	N/A ^{*3}	PH III PART A	Gifford St.
07/17/09	13:48	2.13	14:05	1.59	-0.54	-	N/A ^{*3}	PH III PART A	WA-S
07/22/09	13:35	2.59	14:00	3.63	1.04	-	N/A ^{*3}	PH III PART A	South Terminal
07/23/09	15:30	4.22	15:40	2.70	-1.52	-	N/A ^{*3}	PH III PART A	South Terminal
07/28/09	8:55	4.62	9:10	4.35	-0.27	-	N/A ^{*3}	PH III PART A	South Terminal
08/12/09	13:40	2.90	14:10	4.51	1.61	-	N/A ^{*3}	PH III PART A	Gifford St.
08/13/09	17:48	1.90	18:05	2.60	0.70	-	N/A ^{*3}	PH III PART A	South Terminal
08/17/09	10:10	0.77	10:25	2.07	1.30	-	N/A ^{*3}	PH III PART A	Packer Marine
08/20/09	14:25	2.28	14:45	2.79	0.51	-	N/A ^{*3}	PH III PART A	Packer Marine
08/25/09	16:46	5.62	17:00	3.23	-2.39	-	N/A ^{*3}	PH III PART A	South Terminal

Comments:

- Denotes a non-disposal event
- *1 Time field left blank on original field sheet/log-book
- *2 Bottom of CAD disposal events were off shore and water quality monitoring was not completed
- *3 PH III Part A and Part B Dredging were completed with a silt curtain around CAD II therefore no disposal location readings were taken (up-current and down-current measurements were taken outside the silt curtain.

FIGURES



1. THE SOUNDING INFORMATION PRESENTED ON THIS PLAN REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY COLER & COLANTONIO, INC. ON JUNE 14, 2003 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. REUSE OF THIS INFORMATION BY THE CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE USER'S RISK AND WITHOUT LIABILITY TO COLER & COLANTONIO, INC.

2. SURVEY VESSEL, POSITIONING AND TIDE MONITORING WAS BY REAL-TIME KINEMATIC (RTK) GPS.

3. THE DEPTHS SHOWN ON THIS PLAN ARE EXPRESSED IN FEET AND TENTHS AND ARE REFERENCED TO THE MEAN LOW WATER (MLLW) TIDAL DATUM. THE BENCHMARK FOR THIS PROJECT IS NATIONAL OCEAN SERVICE (NOS) TIDAL BENCHMARK 1564 (DOT 1571) LOCATED IN NEW BEDFORD HARBOR, NEW BEDFORD, MASSACHUSETTS.

4. OTHER THAN SOUNDINGS ANY BARE PLAN DETAIL, INCLUDING THE SHORELINE, HARBOR INFRASTRUCTURE, DREDGE AND CHANNEL LIMITS, WAS PROVIDED BY APEX COMPANIES, L.L.C.

5. UNLESS OTHERWISE INDICATED ON THIS PLAN UTILITIES OR OBSTRUCTIONS LOCATED ON OR BENEATH THE SEAED AREA ARE UNKNOWN AT THIS TIME.

6. NOT TO BE USED FOR NAVIGATION.

GEODETIC DATUM INFORMATION

HYDROGRAPHIC DATUM

NORTH AMERICAN DATUM 1983 (NAD 83)

MASSACHUSETTS STATE PLANE COORDINATE SYSTEM, ZONE 1801

BASE PLAN DETAIL VERTICAL DATUM UNKNOWN

BOUNDARY DATUM

MEAN LOW WATER (MLLW)

TOTAL EPOCH 1983 - 1979 (NATIONAL OCEAN SERVICE)

SCALE: 1" = 40'

CHECK GRAPHIC SCALE BEFORE USING

NEW BEDFORD HARBOR - CAD CELL 1 DISPOSAL AREA

NEW BEDFORD, MASSACHUSETTS

EXISTING CONDITIONS HYDROGRAPHIC SURVEY

CAD CELL 1

SHEET 1 OF 1

PREPARED FOR:

APEX COMPANIES, L.L.C.

115 BROAD STREET, SUITE 200

BOSTON, MASSACHUSETTS 02110

PROJECT MANAGER:

MARK W. ROIDE

DATE:

JUNE 19, 2003

COMPUTED BY:

MARK W. ROIDE

EC, ASPLT

DRAWN BY:

MARK W. ROIDE

REVIEWED BY:

ERIC J. FOREDA

DRAWING SIZE:

36" X 48"

DATE:

JUNE 19, 2003

REVISION:

1

COLER & COLANTONIO, INC.

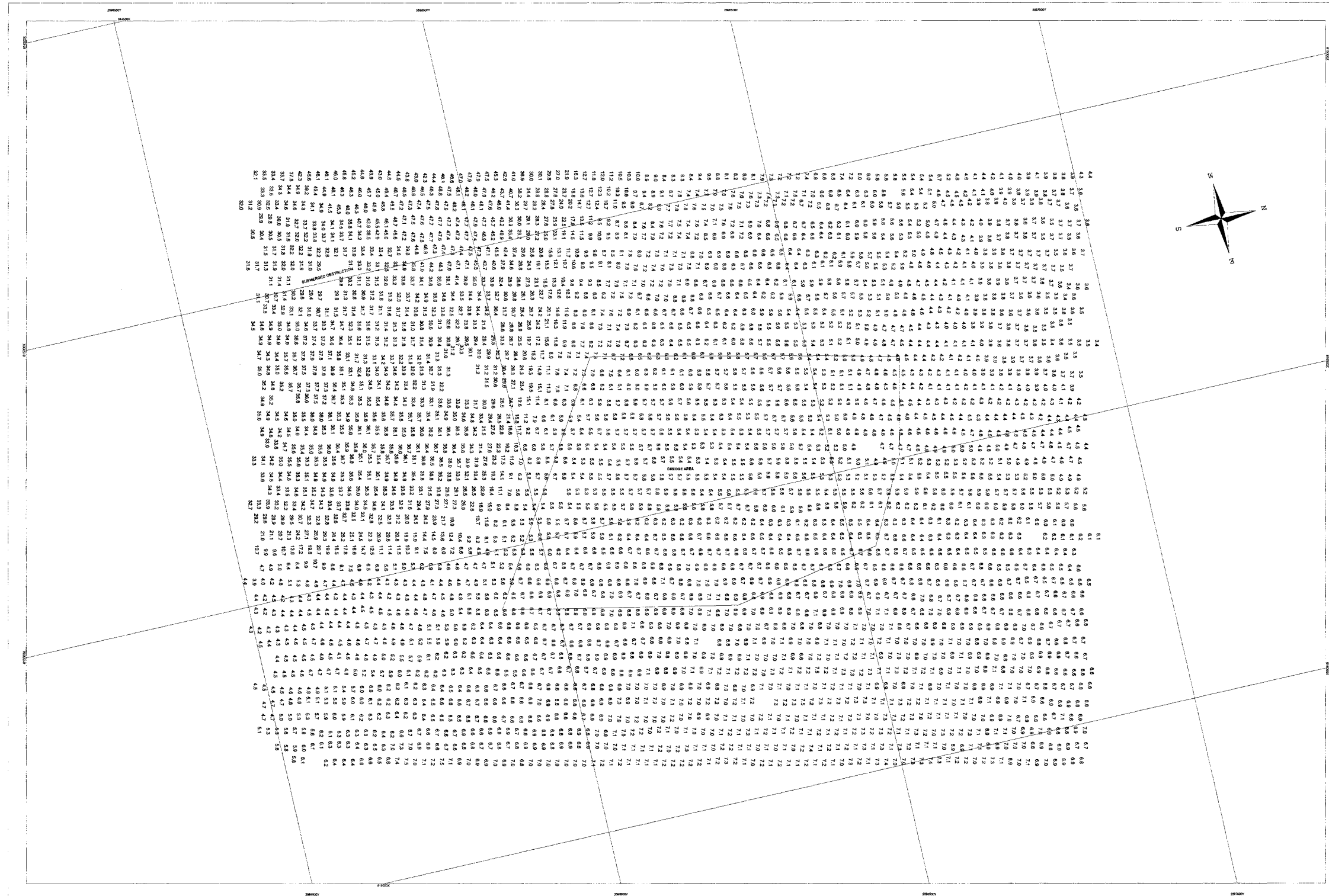
101 ACCORD PARK DRIVE

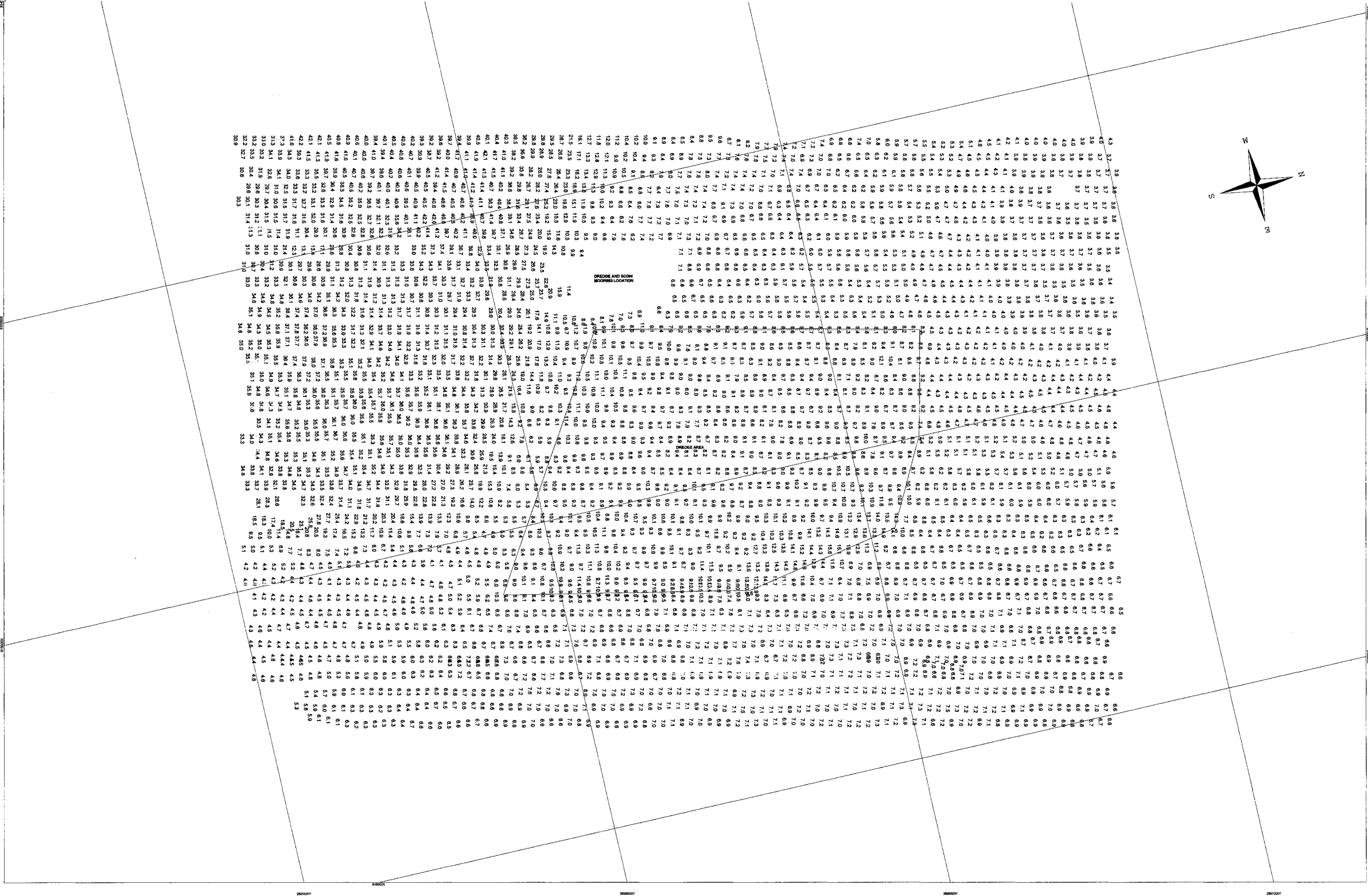
NEW BEDFORD, MASSACHUSETTS 01905

TEL: (508) 952-6400

FAX: (508) 952-6400

ENGINEERING AND SURVEYING





NO.	DESCRIPTION	DATE	APPROVED

- NOTES
- THE SOUNDING INFORMATION PRESENTED ON THIS PLAN REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY COLER & COLANTONIO, INC. ON JULY 17, 2009 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. REUSE OF THIS INFORMATION BY THE CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACCURSED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO COLER & COLANTONIO, INC.
 - SURVEY VESSEL POSITIONING AND TIDE MONITORING WAS BY REAL-TIME KINEMATIC (RTK) GPS.
 - THE DEPTHS SHOWN ON THIS PLAN ARE EXPRESSED IN FEET AND TENTHS AND ARE REFERENCED TO THE MEAN LOWER LOW WATERS (MLLW) TIDAL DATUM. THE BENCHMARK FOR THIS PROJECT IS NATIONAL OCEAN SERVICE (NOS) TIDAL BENCHMARK TSB4 JODY 1677 LOCATED IN NEW BEDFORD HARBOR, NEW BEDFORD, MASSACHUSETTS.
 - OTHER THAN SOUNDINGS ANY BASE PLAN DETAIL, INCLUDING THE SHORELINE, HARBOR INFRASTRUCTURE, DREDGE AND CHANNEL LIMITS, WAS PROVIDED BY APEX COMPANIES, LLC.
 - UNLESS OTHERWISE INDICATED ON THIS PLAN UTILITIES OR OBSTRUCTIONS LOCATED ON OR BENEATH THE SHOWN ARE UNKNOWN AT THIS TIME.
 - NOT TO BE USED FOR NAVIGATION.

GEODETIC DATUM INFORMATION

GEODETIC DATUM
NORTH AMERICAN DATUM 1983 (NAD 83)
MASSACHUSETTS STATE PLANE COORDINATE SYSTEM, ZONE 2001

VERTICAL DATUM
BASE PLAN DETAIL VERTICAL DATUM UNKNOWN

SOUNDING DATUM
MEAN LOWER LOW WATER (MLLW)
TIDAL BENCHMARK TSB4 JODY 1677 (NATIONAL OCEAN SERVICE)

SCALE: 1" = 60'

60 0 60 120 180

CHECK GRAPHIC SCALE BEFORE USING

NEW BEDFORD HARBOR - CAD CELL 2
NEW BEDFORD, MASSACHUSETTS
POST-DREDGE HYDROGRAPHIC SURVEY
TOP OF CAD CELL
SHEET 1 OF 1

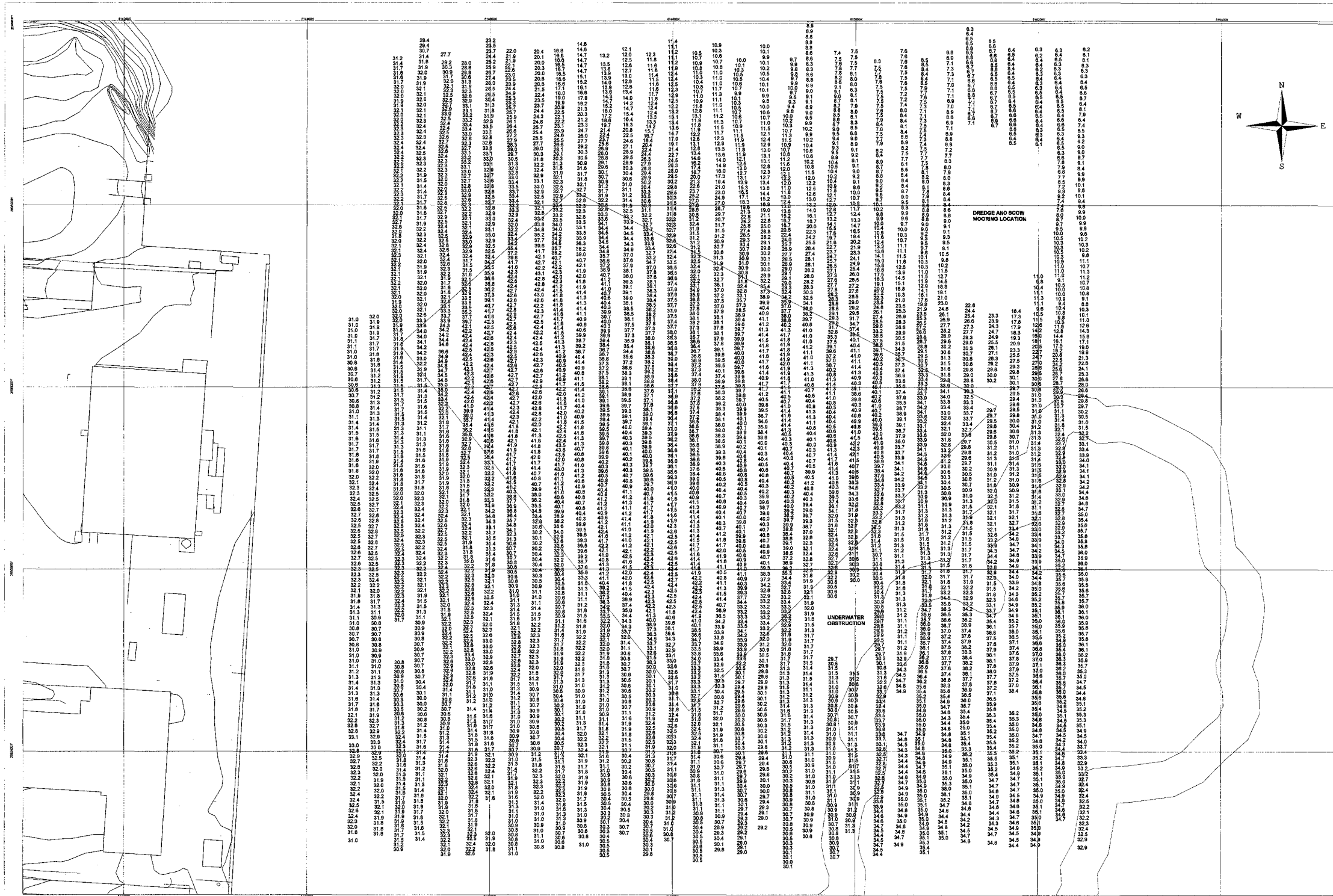
PREPARED FOR:

APEX COMPANIES, LLC
115 BROAD STREET, SUITE 200
BOSTON, MASSACHUSETTS 02110

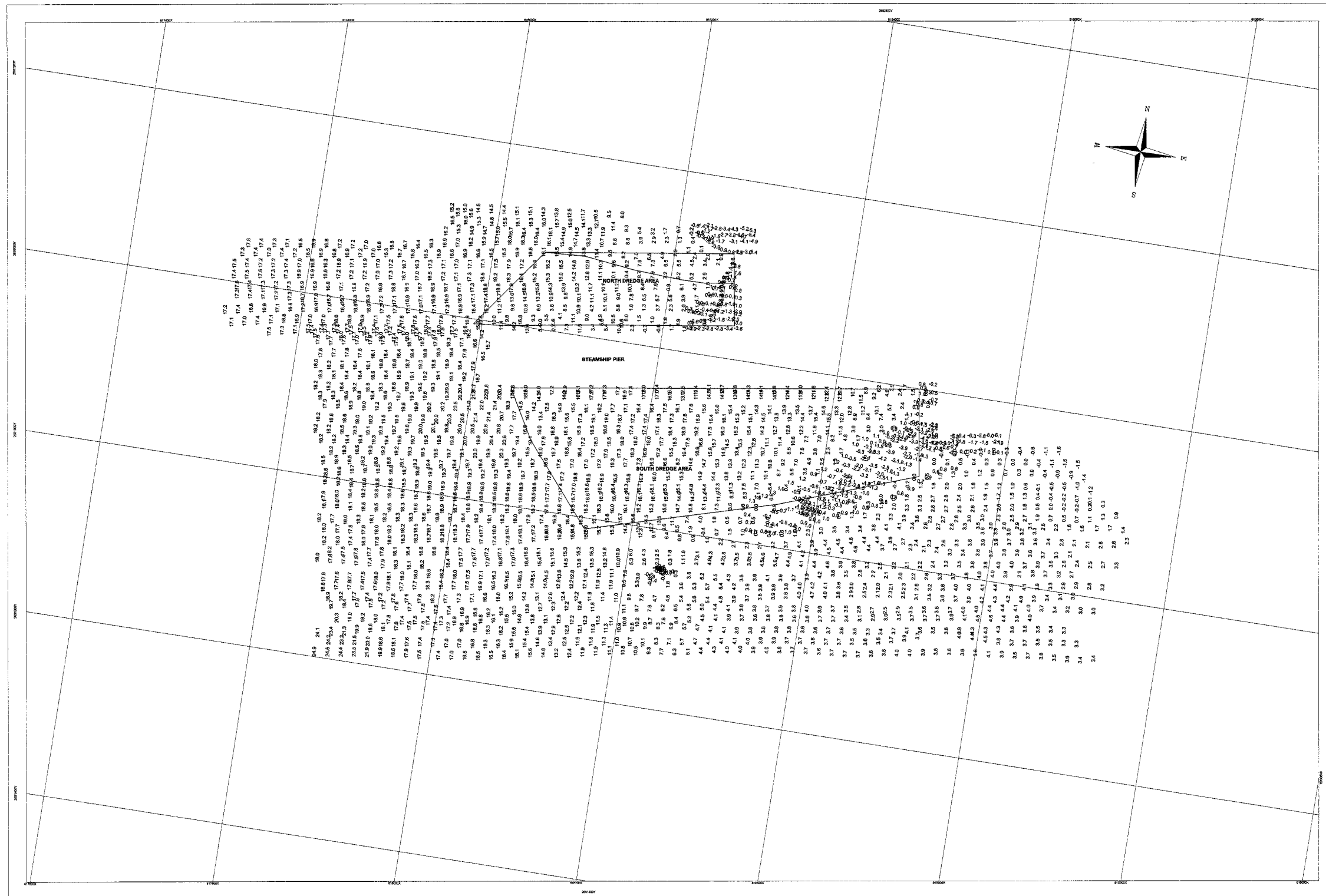
PROJECT MANAGER:	COMPUTED BY:	DRAWN BY:	REVIEWED BY:
MARK W. ROHDE	MARK W. ROHDE	MARK W. ROHDE	ERIC J. PORCODA
PROJECT NO.:	DATE:	DRAWING NO.:	DRAWING SIZE:
21-00000-02	JULY 21, 2009	PO_06.PLT	ANSI F

COLER & COLANTONIO, INC.
101 ACCORD PARK DRIVE
NORWELL, MA 02061-1955
TEL: (781) 862-5400
FAX: (781) 862-5446

COLER & COLANTONIO, INC.
GRAPHIC AND SURVEYING



REVISIONS		DATE	APPROVED
NO.	DESCRIPTION		
NOTES			
1. THE SOUNDING INFORMATION PRESENTED ON THIS PLAN REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY COLL & COLANTONIO, INC. ON JULY 21, 2008 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. REUSE OF THIS INFORMATION BY THE CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO COLL & COLANTONIO, INC.			
2. SURVEY VESSEL POSITIONING AND TIDE MONITORING WAS BY REAL-TIME KINEMATIC (RTK) GPS.			
3. THE DEPTHS SHOWN ON THIS PLAN ARE EXPRESSED IN FEET AND TENTHS AND ARE REFERENCED TO THE MEAN LOWER LOW WATER (MLLW) TOTAL DATUM. THE BENCHMARK FOR THIS PROJECT IS NATIONAL OCEAN SERVICE (NOS) TOTAL BENCHMARK TBM J071 1977 LOCATED IN NEW BEDFORD HARBOR, NEW BEDFORD, MASSACHUSETTS.			
4. OTHER THAN SOUNDINGS ANY BASE PLAN DETAILS, INCLUDING THE SHORELINE, HARBOR INFRASTRUCTURE, DREDGE AND CHANNEL LIMITS, WAS PROVIDED BY APEX COMPANIES, LLC.			
5. UNLESS OTHERWISE INDICATED ON THIS PLAN UTILITIES OR OBSTRUCTIONS LOCATED ON OR NEAR THE BEAMED ARE UNKNOWN AT THE TIME.			
6. NOT TO BE USED FOR NAVIGATION.			
GEODETIC DATUM INFORMATION			
HORIZONTAL DATUM NORTH AMERICAN DATUM 1983 (NAD 83) MASSACHUSETTS STATE PLANE COORDINATE SYSTEM, ZONE 2001			
VERTICAL DATUM BASE PLAN DETAIL VERTICAL DATUM UNKNOWN SOUNDING DATUM MEAN LOWER LOW WATER (MLLW) TOTAL DATUM 1983 - 1978 (NATIONAL OCEAN SERVICE)			
SCALE: 1" = 40'			
CHECK GRAPHIC SCALE BEFORE USING			




NO	DESCRIPTION	DATE	APPROVED

NOTES:

1. THE SOUNDING INFORMATION PRESENTED ON THIS PLAN REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY COLIER & COLANTONIO, INC. DURING THE PERIOD JULY 12, 25, 26, 28 AND 29 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS AS THEY EXISTED AT THE TIME. RELIANCE ON THIS INFORMATION BY THE CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORKS FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO COLIER & COLANTONIO, INC.
2. THE DEFINITIVE SOUNDING DATA ON THIS PLAN ARE EXPRESSED IN FEET AND INCHES AND ARE REFERENCED TO THE MEAN LOW WATER (MLW) BATHYMETRIC TIDE. THE BENCHMARK FOR THIS PROJECT IS NATIONAL OCEAN SERVICE (NOS) TIDE BENCHMARK TOWNSHIP 12 NORTH 15 WEST IN NORTHEAST CORNER OF SECTION 36, TOWNSHIP 12 NORTH, RANGE 15 WEST.
3. OTHER THAN SOUNDINGS ANY BASE PLAN MATERIAL, INCLUDING THE SHORELINE, HARBOR INFRASTRUCTURE, DREDGE AND DEPOSIT LIMITS, HAS BEEN DERIVED FROM AERIAL PHOTOGRAPHS BY AERIAL PHOTOGRAPHIC CORP.
4. UNLESS OTHERWISE INDICATED ON THIS PLAN, UTILITIES OR OBSTRUCTIONS LOCATED OR ON BENEFITS THE BEACHED ARE UNKNOWN AT THIS TIME.
5. NOT TO BE USED FOR NAVIGATION.

GEODETIC DATUM INFORMATION
 HORIZONTAL DATUM
 NORTH AMERICAN DATUM 1983 (NAD 83)
 MASSACHUSETTS STATE PLANE COORDINATE SYSTEM, ZONE 2001
 VERTICAL DATUM
 MEAN/LOWEST LOW WATER (MLLW)
 TIDAL EPOCH 1980 - 1979 (NATIONAL OCEAN SERVICE)
 SOUNDING DATUM
 MEAN/LOWEST LOW WATER (MLLW)
 TIDAL EPOCH 1980 - 1979 (NATIONAL OCEAN SERVICE)

SCALE: 1" = 40'



CHECK GRAPHIC SCALE BEFORE USING

STEAMSHIP AUTHORITY MAINTENANCE TERMINAL
FAIRHAVEN, MASSACHUSETTS

PRE-DREDGE HYDROGRAPHIC & TOPOGRAPHIC SURVEY

SHEET 1 OF 1

PREPARED FOR:

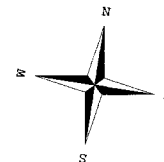
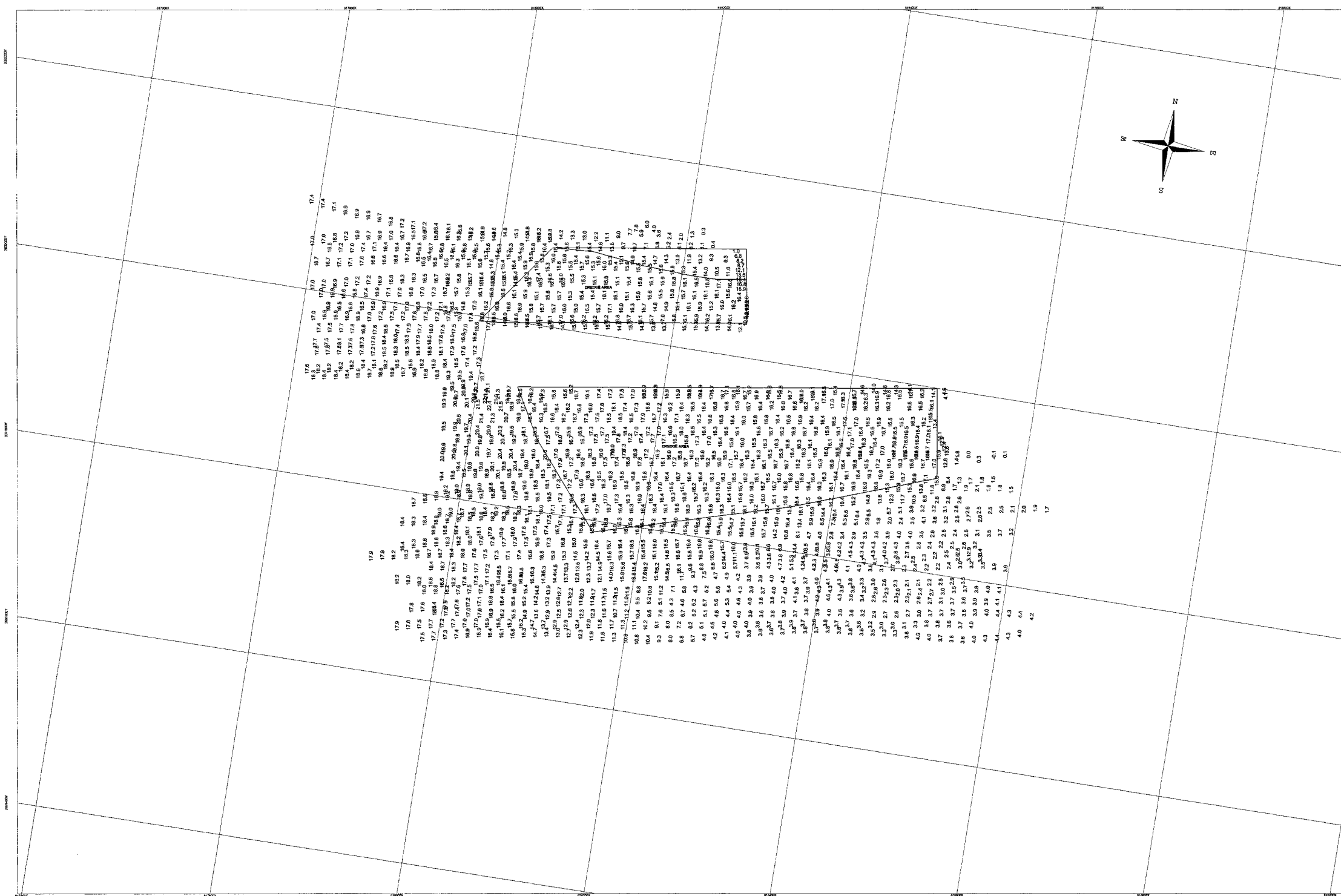
APEX COMPANIES, LLC.
115 BROAD STREET, SUITE 200
BOSTON, MASSACHUSETTS 02110

PROJECT MANAGER:	COMPUTED BY:	DRAWN BY:	REVIEWED BY:
MARK W. ROHDE	MARK W. ROHDE	MARK W. ROHDE	ERIC J. PORTER
PROJECT NO.:	DATE:	DRAWING NO.:	DRAWING SIZE:
21-00068.02	JULY 27, 2008	PR_40.PLT	ANSI F

COLER & COLANTONIO, INC.
101 ACCORD PARK DRIVE
NORWELL, MA 02061-1855
TEL: (781) 982-5400
FAX: (781) 982-5400

COLER & COLANTONIO
ARCHITECTS

ENGINEERS AND COASTALISTS

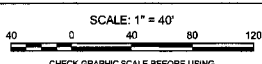


NO.	DESCRIPTION	DATE	APPROVED

NOTES

1. SOUNDING INFORMATION PRESENTED ON THIS PLAN REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY COLLIER & COLANGELO, INC. ON SEPTEMBER 8TH AND 9TH 2009 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THE TIME OF THE SURVEY. COLLIER & COLANGELO, INC. DOES NOT WARRANT THE ACCURACY OF THE SURVEY OR WHETHER IT WAS ACQUIRED BASED AT THE SOLE RISK OF THE LIKAB AND WITHOUT LIABILITY TO COLLIER & COLANGELO, INC.
2. SURVEY BEVEL, POINTS/NOTES AND TIE MONITORING WAS BY REAL-TIME KINEMATIC (RTK) GPS
3. THE SOUNDS SHOWN ON THIS PLAN ARE EXPRESSED IN FEET AND TENTHS AND ARE REPRESENTED TO THE NEAR LOW WATER (NLWL) AND MEAN LOW WATER (MLW) TOTAL DRAIN. THE SOUNDING FOR THIS PROJECT IS NATIONAL COASTAL SURVEY (NCS) 2000, BENCHMARK 1704 477197 LOCATED IN NEW BEDFORD HARBOR, NEW BEDFORD, MASSACHUSETTS.
4. OTHER THAN SOUNDINGS ANY BASED ON PLAN DETAILS, INCLUDING THE KNOWLEDGE, HANDBOOK INFRASTRUCTURE, DREDGE AND FILL, WAS PROVIDED BY GARY COMPANY, LLC.
5. UNLESS OTHERWISE SHOWN ON THIS PLAN, UTILITIES OR OBSTRUCTIONS LOCATED ON OR BEHIND THE BEARED ARE UNKNOWN AT THIS TIME.
6. NOT TO BE USED FOR NAVIGATION.

GEOIDETIC DATUM INFORMATION
 HORIZONTAL DATUM
 NORTH AMERICAN DATUM 1983 (NAD 83)
 MASSACHUSETTS STATE PLANE COORDINATE SYSTEM, ZONE 2001
 VERTICAL DATUM
 MEAN LOWER LOW WATER (MLLW)
 TIDAL EPOCH 1980 - 1979 (NATIONAL OCEAN SERVICE)
 SOUNDING DATUM
 MEAN LOWER LOW WATER (MLLW)
 TIDAL EPOCH 1980 - 1979 (NATIONAL OCEAN SERVICE)



STEAMSHIP AUTHORITY MAINTENANCE TERMINAL
FAIRHAVEN, MASSACHUSETTS

POST-DREDGE HYDROGRAPHIC SURVEY

SHEET 1 OF 1

PREPARED FOR:

APEX COMPANIES, LLC.
115 BROAD STREET, SUITE 200
BOSTON, MASSACHUSETTS 02110

PROJECT MANAGER:	COMPUTED BY:	DRAWN BY:	REVIEWED BY:
MARK W. ROHDE	MARK W. ROHDE	MARK W. ROHDE	ERIC J. POREDA
PROJECT NO.:	DATE:	DRAWING NO.:	DRAWING SIZE:
21-00068.02	SEPTEMBER 15, 2008	PD_40_PLT	ANSI F

COLER & COLANTONIO, INC.
161 ACCORD PARK DRIVE
NORWELL, MA 02061-1695
TEL: (781) 923-5400
FAX: (781) 923-5400

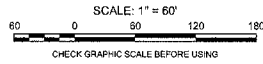
COLER & COLANTONIO
CORPORATION
(INCORPORATED IN MASSACHUSETTS)



NO.	DESCRIPTION	DATE	APPROVED

- 102781
- THE SOUNDING INFORMATION PRESENTED ON THIS PLAN REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY COLER & COLANTONIO, INC. ON JULY 17, 2001 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. REUSE OF THIS INFORMATION BY THE CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO COLER & COLANTONIO, INC.
 - SURVEY VESSEL, POSITIONING AND TIDE MONITORING WAS BY REAL-TIME KINEMATIC (RTK) GPS.
 - THE DEPTH SHOWN ON THIS PLAN ARE EXPRESSED IN FEET AND TIDING ARE REFERENCES TO THE MEAN LOWER LOW WATER (MLLW) TIDAL DATUM. THE BENCHMARK FOR THIS PROJECT IS NATIONAL OCEAN SERVICE (NOS) TIDAL BENCHMARK STATION 1971 LOCATED IN NEW BEDFORD HARBOR, NEW BEDFORD, MASSACHUSETTS.
 - OTHER THAN SOUNDINGS ANY BASE PLAN DETAILS, INCLUDING THE SHORELINE, HARBOR INFRASTRUCTURE, DREDGE AND CHANNEL LIMITS, WAS PROVIDED BY APEX COMPANIES, LLC.
 - UNLESS OTHERWISE INDICATED ON THIS PLAN UTILITIES OR OBSTRUCTIONS LOCATED ON OR BENEATH THE SEABED ARE UNKNOWN AT THIS TIME.
 - NOT TO BE USED FOR NAVIGATION.

GEODETIC DATUM INFORMATION
HORIZONTAL DATUM
NORTH AMERICAN DATUM 1983 (NAD 83)
MASSACHUSETTS STATE PLANE COORDINATE SYSTEM, ZONE 20M
VERTICAL DATUM
BASE PLAN DETAIL: VERTICAL DATUM UNKNOWN
SOUNDING DATUM
MEAN LOWER LOW WATER (MLLW)
TIDAL EPOCH 1980 - 1918 (NATIONAL OCEAN SERVICE)



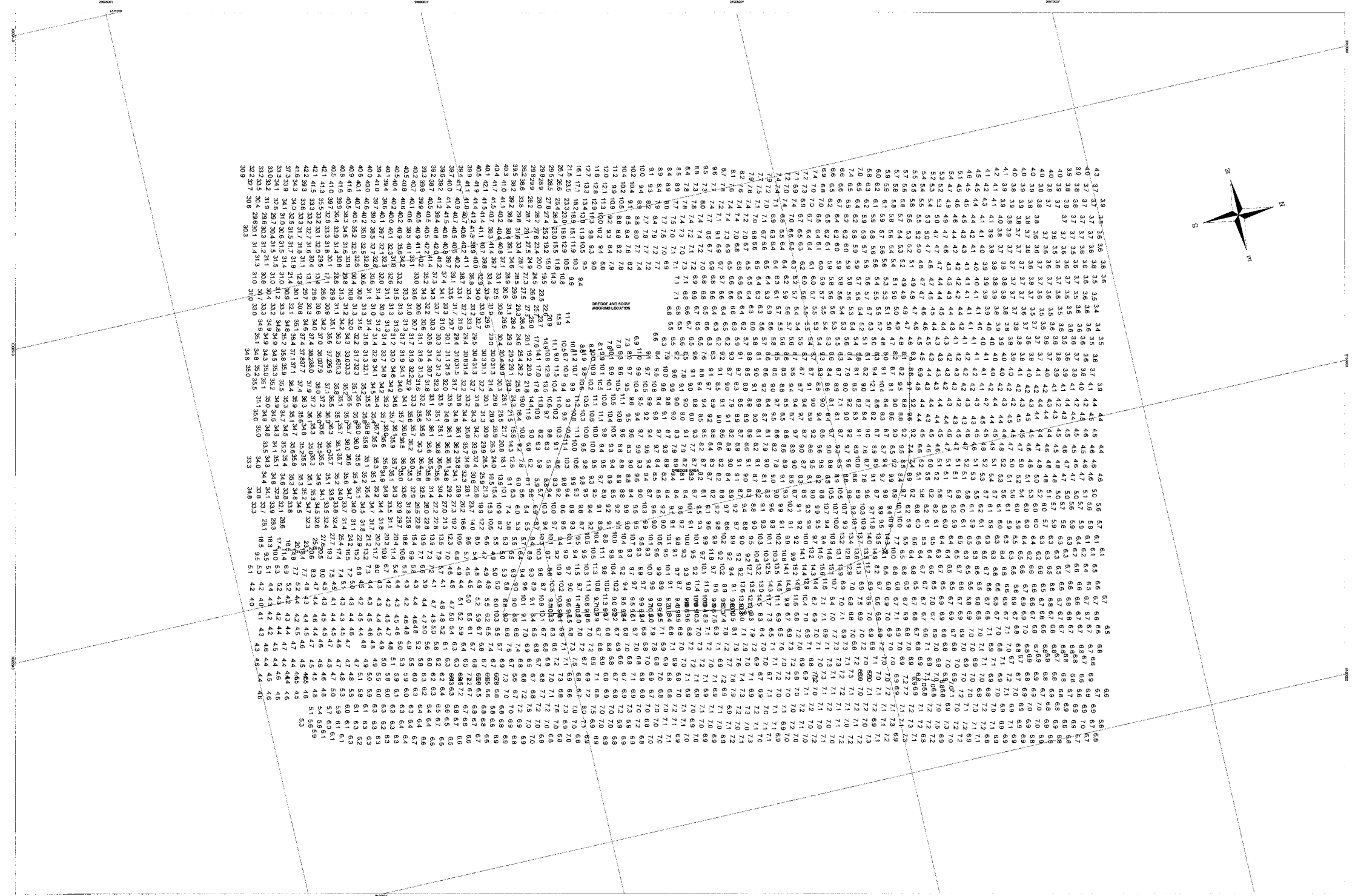
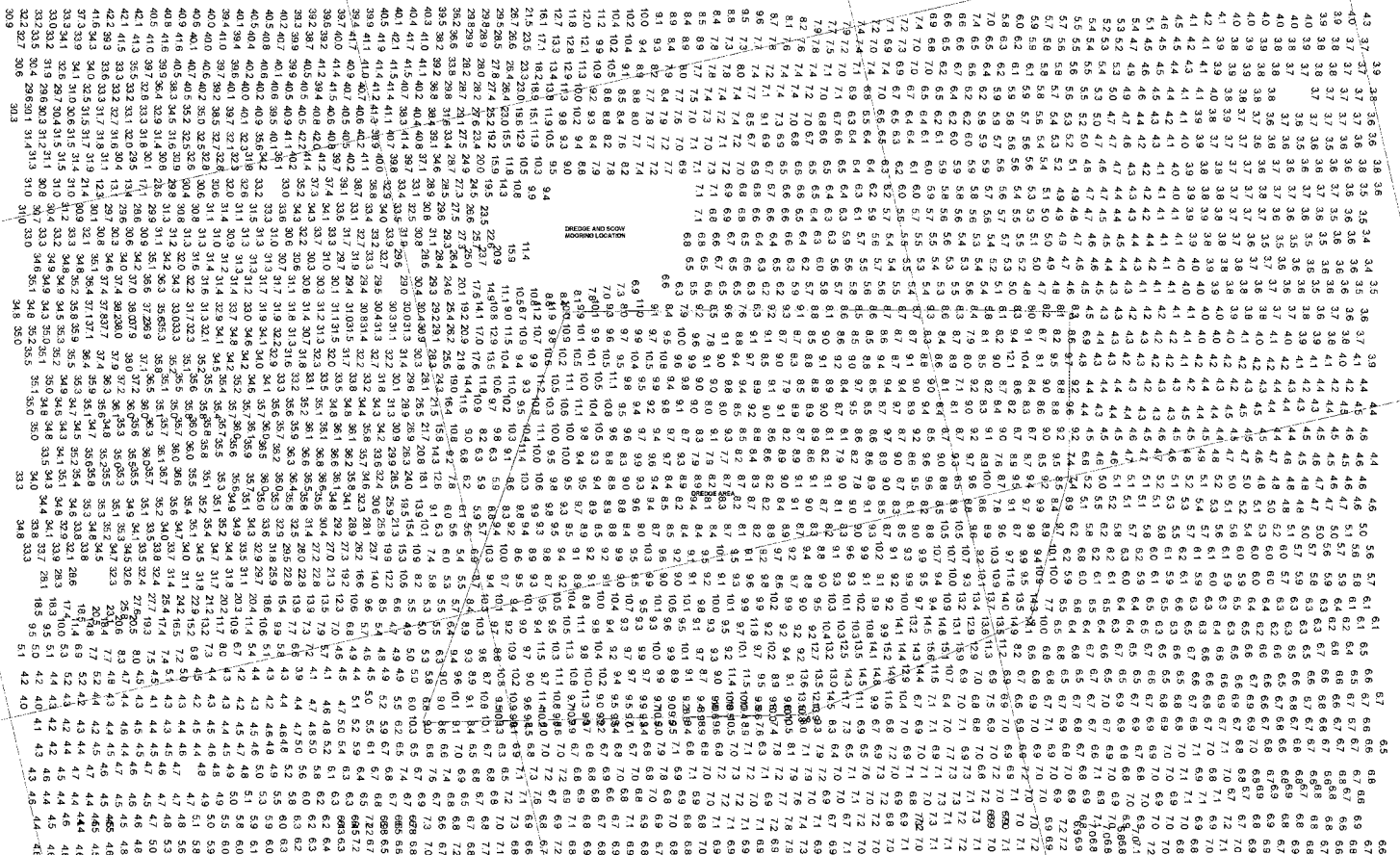
NEW BEDFORD HARBOR – CAD CELL 2
NEW BEDFORD, MASSACHUSETTS
PRE-DREDGE HYDROGRAPHIC SURVEY
BOTTOM OF CAD CELL
SHEET 1 OF 1

PREPARED FOR:
APEX COMPANIES, LLC
115 BROAD STREET, SUITE 200
BOSTON, MASSACHUSETTS 02110

PROJECT MANAGER:	COMPUTED BY:	DRAWN BY:	REVIEWED BY:
MARK W. ROHDE	MARK W. ROHDE	ERIC J. PORCODA	ERIC J. PORCODA
PROJECT NO.:	DATE:	DRAWING NO.:	DRAWING SIZE:
21-00056-00	SEPTEMBER 2, 2001	PD_05.PLT	ANSI/F

COLER & COLANTONIO, INC.
101 ACCORD PARK DRIVE
BURLINGTON, MA 01803-1661
TEL: (978) 942-5400
FAX: (978) 942-5400

COLER & COLANTONIO





NO.

DESCRIPTION

DATE

APPROVED

REVISIONS

NOTES

1. THE SOUNDING INFORMATION PRESENTED ON THIS PLAN REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY COLER & COLANTONIO, INC. ON AUGUST 22, 2006 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. REUSE OF THIS INFORMATION BY THE CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO COLER & COLANTONIO, INC.

2. SURVEY VESSEL, POSITIONING AND TIDE MONITORING WAS BY REAL-TIME KINEMATIC (RTK) GPS.

3. THE DEPTHS SHOWN ON THIS PLAN ARE EXPRESSED IN FEET AND TENTHS AND ARE REFERENCED TO THE MEAN LOWER LOW WATER (MLLW) TIDAL DATUM. THE BENCHMARK FOR THIS PROJECT IS NATIONAL OCEAN SERVICE (NORS) TIDAL BENCHMARK 7344 JURY HILL LOCATED IN NEW BEDFORD HARBOR, NEW BEDFORD, MASSACHUSETTS.

4. OTHER THAN BOUNDARIES ANY BASE PLAN DETAIL, INCLUDING THE SHORELINE, HARBOR INFRASTRUCTURE, DREDGE AND CHANNEL LIMITS, WAS PROVIDED BY APEX COMPANIES, LLC.

5. UNLESS OTHERWISE INDICATED ON THIS PLAN UTILITIES OR OBSTRUCTIONS LOCATED ON OR BENEATH THE SEA BED ARE UNKNOWN AT THIS TIME.

6. NOT TO BE USED FOR NAVIGATION.

GEODETIC DATUM INFORMATION

MEAN SEA LEVEL DATUM
NORTH AMERICAN DATUM 1983 (NAD 83)
MASSACHUSETTS STATE PLANE COORDINATE SYSTEM, ZONE 2001

VERTICAL DATUM
BASE PLAN DETAIL VERTICAL DATUM UNKNOWN
SOUNDING DATUM
MEAN LOWER LOW WATER (MLLW)
TIDAL EPOCH 1986 - 1978 (NATIONAL OCEAN SERVICE)

SCALE: 1" = 40'

40 0 40 80 120

CHECK GRAPHIC SCALE BEFORE USING

NEW BEDFORD HARBOR DREDGE - PHASE III

NEW BEDFORD, MASSACHUSETTS

EXISTING CONDITIONS HYDROGRAPHIC SURVEY

BORROW PIT CAD DISPOSAL AREA

SHEET 1 OF 1

PREPARED FOR:

APEX COMPANIES, LLC.
115 BROAD STREET, SUITE 200
BOSTON, MASSACHUSETTS 02110

PROJECT MANAGER:

COMPUTED BY:

DRAWN BY:

REVIEWED BY:

MARK W. ROHDE

MARK W. ROHDE

ERIC J. FORBES

PROJECT NO.:

DATE:

DRAWING NO.:

DRAWING SIZE:

21-000004

AUGUST 22, 2006

EC_00_PL1

A161 F

COLER & COLANTONIO, INC.

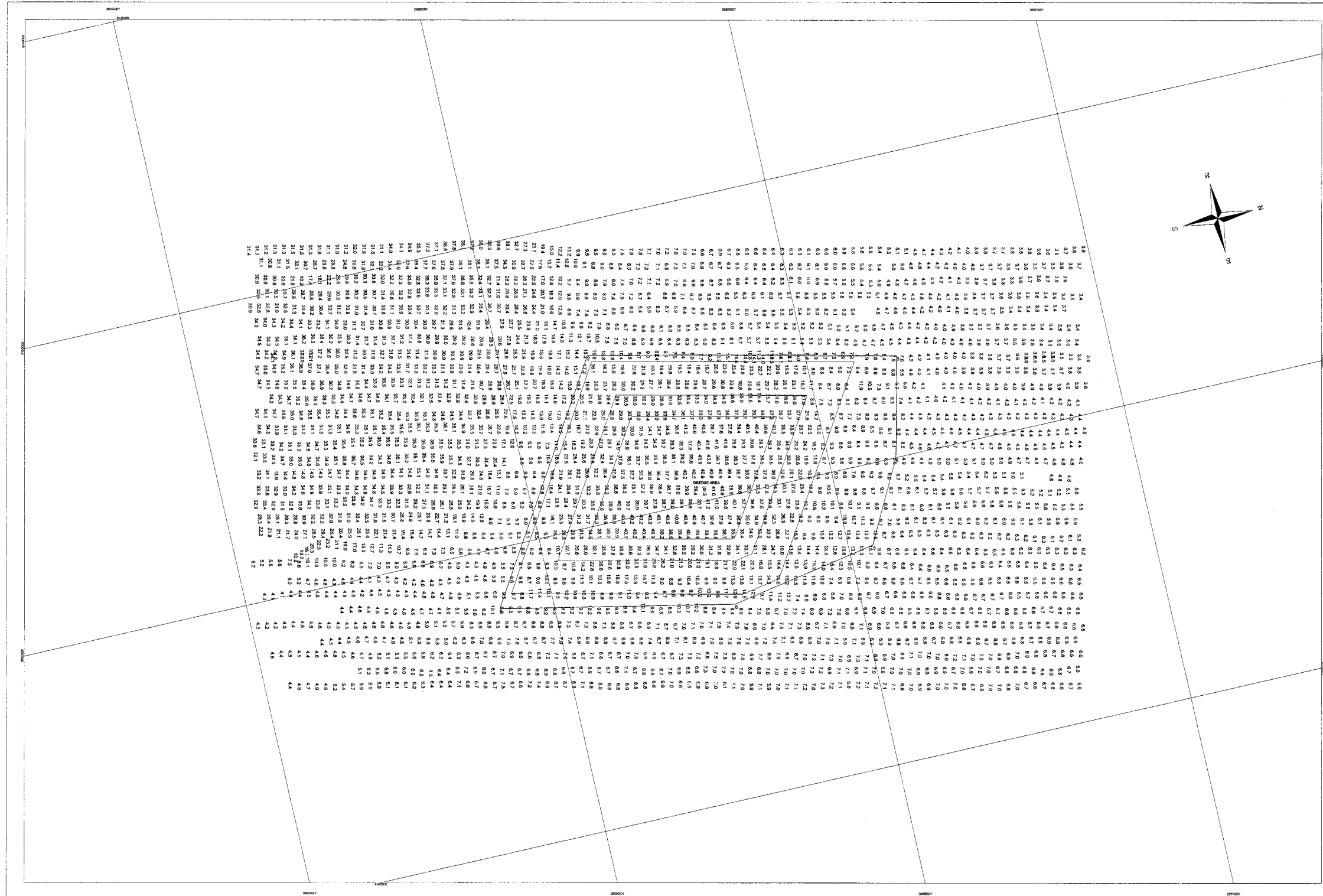
101 ACCORD PARK DRIVE

NORWELL, MA 02061-1001

TEL: (781) 962-5400

FAX: (781) 962-5400

©2006 COLER & COLANTONIO, INC.



NO.	DESCRIPTION	DATE	APPROVED
REVISIONS			

NOTES

1. THE SOUNDINGS INFORMATION PRESENTED ON THIS PLAN REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY COLER & COLANTONIO, INC. ON OCTOBER 13, 2008 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. REUSE OF THIS INFORMATION BY THE CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACCRUED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO COLER & COLANTONIO, INC.
2. SURVEY VESSEL, POSITIONING AND TIDE MONITORING WAS BY REAL-TIME KINEMATIC (RTK) GPS.
3. THE DEPTHS SHOWN ON THIS PLAN ARE EXPRESSED IN FEET AND METERS AND ARE REFERENCED TO THE MEAN LOWER LOW WATER (MLLW) TIDAL DATUM. THE BENCHMARK FOR THIS PROJECT IS NATIONAL OCEAN SERVICE (NOS) TIDAL BENCHMARK 1984 JOST 1571 LOCATED IN NEW BEDFORD HARBOR, NEW BEDFORD, MASSACHUSETTS.
4. OTHER THAN SOUNDINGS ANY BASE PLAN DETAIL, INCLUDING THE SHORELINE, HARBOR INFRASTRUCTURE, DREDGE AND CHANNEL LIMITS, WAS PROVIDED BY APEX COMPANIES, LLC.
5. UNLESS OTHERWISE INDICATED ON THIS PLAN UTILITIES OR OBSTRUCTIONS LOCATED ON OR BENEATH THE SEABED ARE UNKNOWN AT THIS TIME.
6. NOT TO BE USED FOR NAVIGATION.

GEODETIC DATUM INFORMATION

GEODETIC DATUM
NORTH AMERICAN DATUM 1983 (NAD 83)
MASSACHUSETTS STATE PLANE COORDINATE SYSTEM, ZONE 18N1

BASE PLAN DETAIL VERTICAL DATUM UNKNOWN

SOUNDING DATUM
MEAN LOWER LOW WATER (MLLW)
TIDAL EPOCH 1983 - 1979 (NATIONAL OCEAN SERVICE)

SCALE: 1" = 60'

CHECK GRAPHIC SCALE BEFORE USING

NEW BEDFORD HARBOR - CAD CELL 2
NEW BEDFORD, MASSACHUSETTS
POST-DREDGE HYDROGRAPHIC SURVEY
BOTTOM OF CAD CELL
SHEET 1 OF 1

PREPARED FOR:

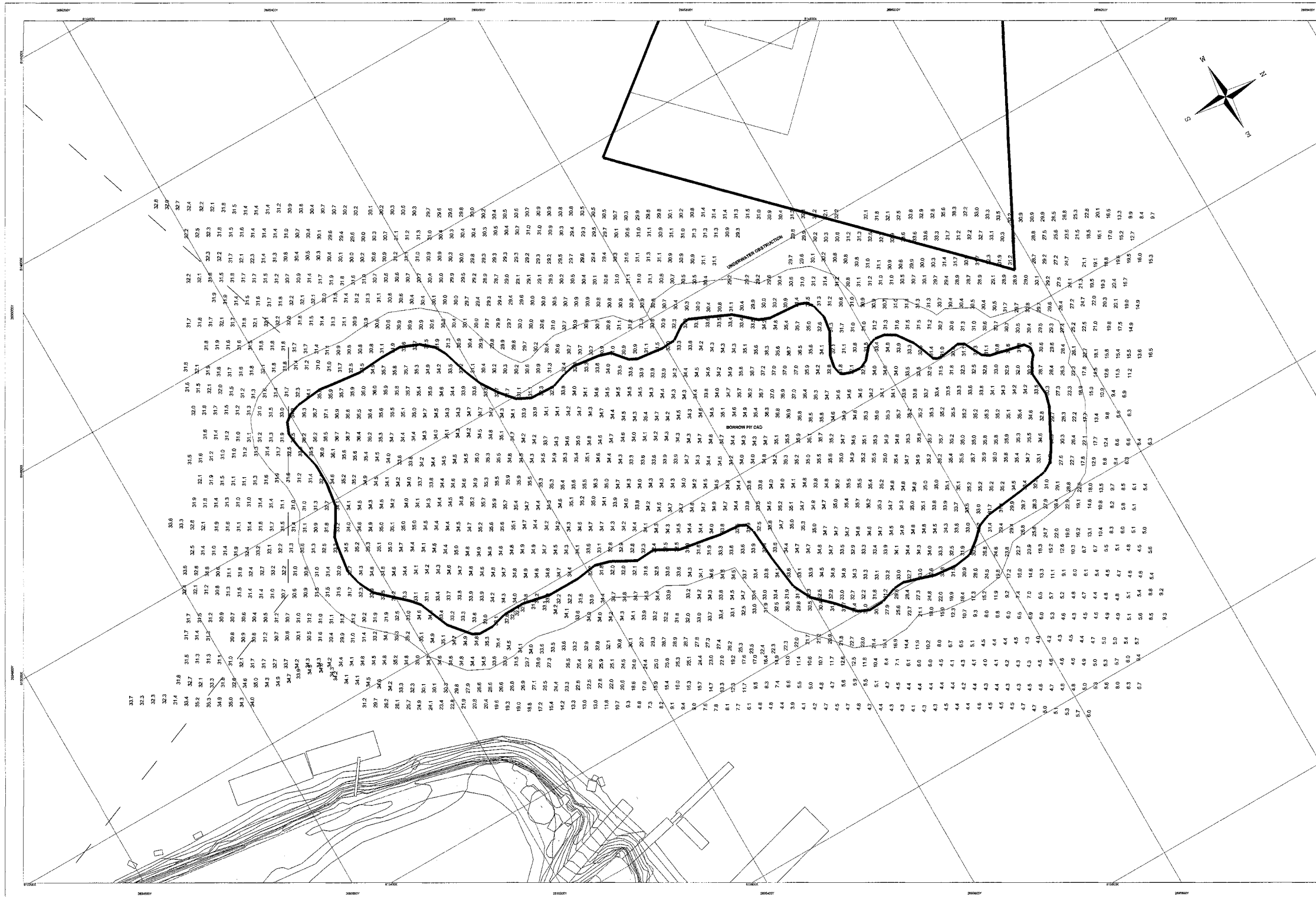
APEX COMPANIES, LLC,
115 BROAD STREET, SUITE 200
BOSTON, MASSACHUSETTS 02110

PROJECT MANAGER:	COMPUTED BY:	DRAWN BY:	REVIEWED BY:
MARK W. RONDE	MARK W. RONDE	MARK W. RONDE	ERIC J. PORECKI

PROJECT NO.:	DATE:	DRAWING NO.:	DRAWING SIZE:
21-0008-05	OCTOBER 16, 2008	PO_02.PLT	A11S 7

COLER & COLANTONIO, INC.
101 ACCORD PARK DRIVE
NORWELL, MA 02061-1465
TEL: (781) 962-5480
FAX: (781) 962-5480

COLER & COLANTONIO, INC.
HYDROGRAPHIC AND REMOTE SENSING



NO. 1

DESCRIPTION

DATE

APPROVED

REVISIONS

NOTES

1. THE SOUNDING INFORMATION PRESENTED ON THIS PLAN REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY COLER & COLANTONIO, INC. ON OCTOBER 13, 2008 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. RELIANCE OF THIS INFORMATION BY THE CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO COLER & COLANTONIO, INC.

2. SURVEY VESSEL, POSITIONING AND TIDE MONITORING WAS BY REAL-TIME KINEMATIC (RTK) GPS.

3. THE DEPTHS SHOWN ON THIS PLAN ARE EXPRESSED IN FEET AND TENTHS AND ARE REFERENCED TO THE MEAN LOWER LOW WATER (MLLW) TIDAL DATUM. THE BENCHMARK FOR THIS PROJECT IS NATIONAL OCEAN SERVICE (NOS) TIDAL BENCHMARK 1984 3007 877 LOCATED IN NEW BEDFORD HARBOR, NEW BEDFORD, MASSACHUSETTS.

4. OTHER THAN SOUNDINGS ANY BASE PLAN DETAIL, INCLUDING THE SHORELINE, HARBOR INFRASTRUCTURE, DREDGE AND CHANNEL LIMITS, WAS PROVIDED BY APEX COMPANIES, LLC.

5. UNLESS OTHERWISE INDICATED ON THIS PLAN UTILITIES OR OBSTRUCTIONS LOCATED ON OR BENEATH THE SEAED ARE UNKNOWN AT THIS TIME.

6. NOT TO BE USED FOR NAVIGATION.

GEODETIC DATUM INFORMATION

HORIZONTAL DATUM

NORTH AMERICAN DATUM 1983 (NAD 83)

MASSACHUSETTS STATE PLANE COORDINATE SYSTEM, ZONE 2001

VERTICAL DATUM

BASE PLAN DETAIL VERTICAL DATUM UNKNOWN

SOUNDING DATUM

MEAN LOWER LOW WATER (MLLW)

TIDAL EPOCH 1980 - 1979 (NATIONAL OCEAN SERVICE)

SCALE: 1" = 40'

0 40 80 120

CHECK GRAPHIC SCALE BEFORE USING

NEW BEDFORD HARBOR DREDGE - PHASE III

NEW BEDFORD, MASSACHUSETTS

EXISTING CONDITIONS HYDROGRAPHIC SURVEY

BORROW PIT CAD DISPOSAL AREA

SHEET 1 OF 1

PREPARED FOR:

APEX COMPANIES, LLC.

115 BROAD STREET, SUITE 200

BOSTON, MASSACHUSETTS 02110

PROJECT MANAGER:

MARK W. RICHIE

COMPUTED BY:

MARK W. RICHIE

DRAWN BY:

ERIC J. FORDE

REVIEWED BY:

ERIC J. FORDE

PROJECT NO.:

21-008803

DATE:

OCTOBER 16, 2008

DRAWING NO.:

EC_48.PLT

DRAWING SIZE:

A361 F

COLER & COLANTONIO, INC.

101 ACCORD PARK DRIVE

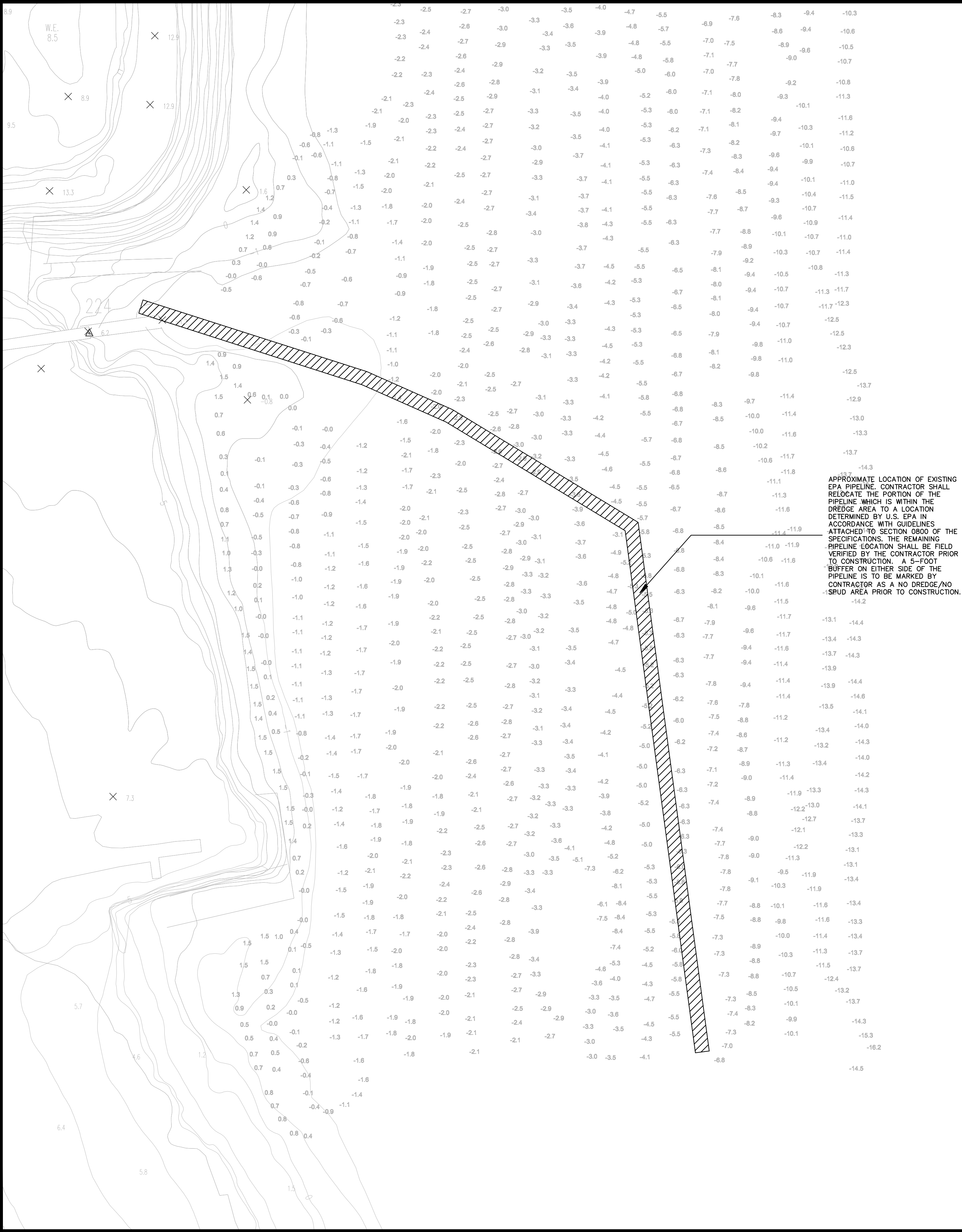
NORFOLK, MA 01901-1605

TEL: (781) 882-5400

FAX: (781) 882-5400

COLER & COLANTONIO

HYDROGRAPHIC SURVEYING



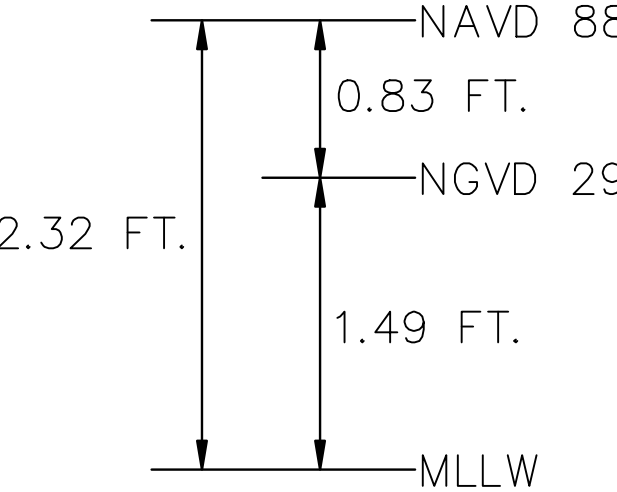
EBB
FLOOD

NOTES

- COORDINATES SHOWN ARE IN THE STATE PLANE COORDINATE SYSTEM, MASSACHUSETTS MAINLAND ZONE 2001, REFERENCED TO THE 1983 NORTH AMERICAN DATUM.
- HYDROGRAPHIC SURVEY IS A COMPILATION OF SURVEYS PERFORMED BETWEEN 8-11-06 AND 11-6-06.
- HYDROGRAPHIC SURVEY DATUM IS REFERENCED TO MEAN LOWER LOW WATER (MLLW) ON THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SERVICE TIDAL BENCHMARK BM7584 J 1977 - SURVEY DISK SET FLUSH IN THE SURFACE OF A CONCRETE SIDEWALK ON THE SOUTH SIDE OF U.S. HIGHWAY 6 ON THE NORTH SIDE OF THE MOBIL SERVICE STATION, 4 FEET (1 M) WEST OF A FIRE HYDRANT AND 1 FOOT (0.3 M) SOUTH OF U.S. HIGHWAY 6. DATUM SEPARATIONS WERE COMPUTED BY COLER AND COLANTONIO, INC. FEBRUARY 2002 AS MLLW - 1.52 FT = NGVD29 0.0 FT. TO OBTAIN VALUES IN NGVD29, SUBTRACT 1.52 FEET FROM THE INDICATED VALUE AT ANY POINT. HORIZONTAL CONTROL CAN BE OBTAINED FROM THE ENGINEER.
- BASE PLAN FOR THIS FIGURE OBTAINED FROM U.S. ARMY CORPS OF ENGINEERS. EXISTING CONDITIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
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- LIMITS OF FEDERAL NAVIGATIONAL CHANNEL OBTAINED FROM U.S. ARMY CORPS OF ENGINEERS.
- NO SPUDDING SHALL OCCUR IN ANY AREA DESIGNATED NO SPUD ZONE.

APPROXIMATE LOCATION OF EXISTING EPA PIPELINE. CONTRACTOR SHALL RELOCATE THE PORTION OF THE PIPELINE WHICH IS WITHIN THE DREDGE AREA TO A LOCATION DETERMINED BY U.S. EPA IN ACCORDANCE WITH GUIDELINES ATTACHED TO SECTION 0800 OF THE SPECIFICATIONS. THE REMAINING PIPELINE LOCATION SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. A 5-FOOT BUFFER ON EITHER SIDE OF THE PIPELINE IS TO BE MARKED BY CONTRACTOR AS A NO DREDGE/NO SPUD AREA PRIOR TO CONSTRUCTION.

GRAPHIC DEPICTION OF DATUM SEPARATIONS FOR NEW BEDFORD HARBOR



115 BROAD STREET
SUITE 200
BOSTON MA 02110
(617) 728-0070

REVISIONS

NO.	DATE	DESCRIPTION
1.	8/05/06	PRELIM. DREDGE LAYOUT
2.	11/14/06	BID SET
3.	1/16/08	RE-BID

THESE DRAWINGS PREPARED BY APEX FOR THIS PROJECT ARE INSTRUMENTS OF APEX'S SERVICE FOR USE SOLELY WITH RESPECT TO THIS PROJECT, AND APEX SHALL BE DEEMED THE AUTHOR OF THE DRAWING AND SHALL RETAIN ALL COMMON LAW, STATUTORY AND OTHER RESERVED RIGHTS WITH RESPECT THERETO, INCLUDING COPYRIGHT. THE DOCUMENTS SHALL NOT BE USED ON OTHER PROJECTS, FOR ADDITIONS TO THIS PROJECT OR FOR COMPLETION OF THIS PROJECT BY OTHERS, EXCEPT BY AGREEMENT IN WRITING AND WITH APPROPRIATE COMPENSATION TO APEX.

PROJECT TITLE:

NEW BEDFORD HARBOR
NAVIGATIONAL
DREDGE - PHASE III,
PART B

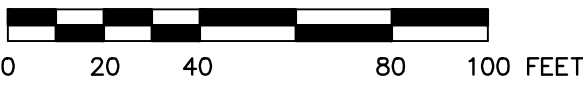
PREPARED FOR:

THE NEW BEDFORD
HARBOR DEVELOPMENT
COMMISSION
AND THE
TOWN OF FAIRHAVEN,
MASSACHUSETTS

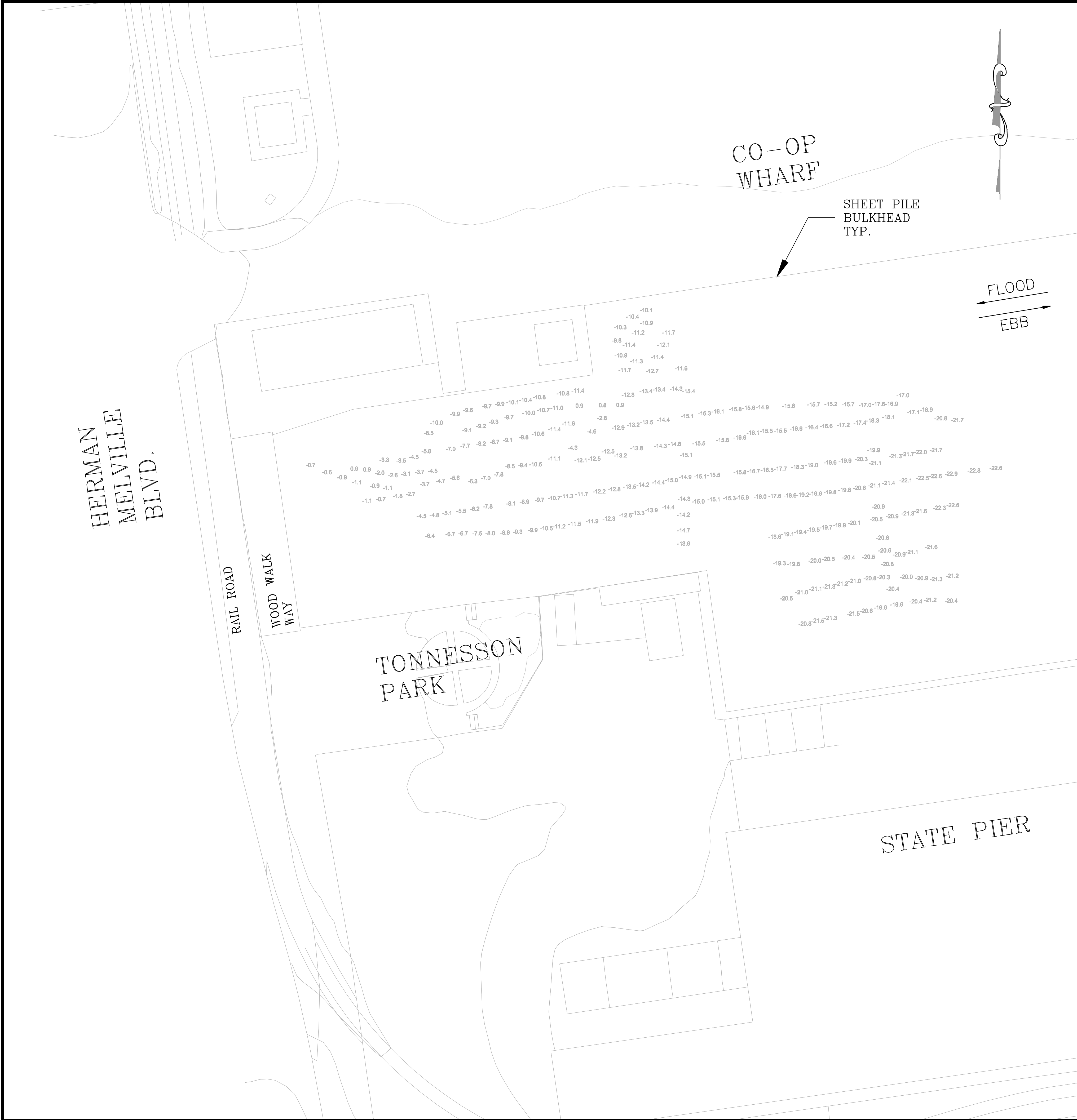
DRAWING TITLE:

NEW BEDFORD
ROWING FACILITY
DREDGE AREA -
EXISTING CONDITIONS
NOT
FOR CONSTRUCTION

Scale: 1"=40'



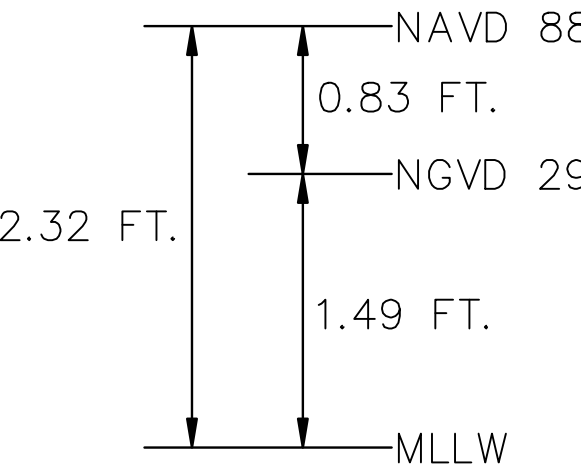
Date	9/05/08	Drawing No.	
Proj. Mgr.	JAB		
Design	CWM		
Check	CM		
Drawn	CWM		
Job. No.	6615		
Last Rev.	1/16/09		



NOTES

1. COORDINATES SHOWN ARE IN THE STATE PLANE COORDINATE SYSTEM, MASSACHUSETTS MAINLAND ZONE 2001, REFERENCED TO THE 1983 NORTH AMERICAN DATUM.
2. HYDROGRAPHIC SURVEY IS A COMPILATION OF SURVEYS PERFORMED BETWEEN 9-11-06 AND 11-6-08.
3. HYDROGRAPHIC SURVEY DATUM IS REFERENCED TO MEAN LOWER LOW WATER (MLLW) ON THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SERVICE TIDAL BENCHMARK BM7594 J 1977 - SURVEY DISK SET FLUSH IN THE SURFACE OF A CONCRETE SIDEWALK ON THE SOUTH SIDE OF U.S.HIGHWAY 6 ON THE NORTH SIDE OF THE MOBIL SERVICE STATION, 4 FEET (1 M) WEST OF A FIRE HYDRANT AND 1 FOOT (0.3 M) SOUTH OF U.S. HIGHWAY 6. DATUM SEPARATIONS WERE COMPUTED BY COLER AND COLANTONIO, INC. FEBRUARY 2002 AS MLLW - 1.52 FT = NGVD29 0.0 FT. TO OBTAIN VALUES IN NGVD29, SUBTRACT 1.52 FEET FROM THE INDICATED VALUE AT ANY POINT. HORIZONTAL CONTROL CAN BE OBTAINED FROM THE ENGINEER.
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7. EXISTING UTILITIES WITHIN THE SITE HAVE NOT BEEN IDENTIFIED. IDENTIFICATION AND PROTECTION OF EXISTING UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
8. LIMITS OF FEDERAL NAVIGATIONAL CHANNEL OBTAINED FROM U.S. ARMY CORPS OF ENGINEERS.
9. NO SPUDDING SHALL OCCUR IN ANY AREA DESIGNATED NO SPUD ZONE.

GRAPHIC DEPICTION OF
DATUM SEPARATIONS FOR
NEW BEDFORD HARBOR



115 BROAD STREET
SUITE 200
BOSTON MA 02110
(617) 728-0070

REVISIONS

NO.	DATE	DESCRIPTION
1.	9/05/08	PRELIM. DREDGE LAYOUT
2.	11/14/08	BID SET

THESE DRAWINGS PREPARED BY APEX FOR THIS PROJECT ARE INSTRUMENTS OF APEX'S SERVICE FOR USE SOLELY WITH RESPECT TO THIS PROJECT, AND APEX SHALL BE DEEMED THE AUTHOR OF THE DRAWING AND SHALL RETAIN ALL COMMON LAW, STATUTORY AND OTHER RESERVED RIGHTS WITH RESPECT THERETO, INCLUDING COPYRIGHT. THE DOCUMENTS SHALL NOT BE USED ON OTHER PROJECTS, FOR ADDITIONS TO THIS PROJECT OR FOR COMPLETION OF THIS PROJECT BY OTHERS, EXCEPT BY AGREEMENT IN WRITING AND WITH APPROPRIATE COMPENSATION TO APEX.



PROJECT TITLE:

NEW BEDFORD HARBOR
NAVIGATIONAL
DREDGE - PHASE III,
PART A

PREPARED FOR:

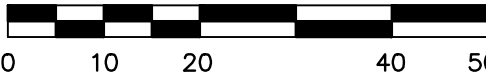
THE NEW BEDFORD
HARBOR DEVELOPMENT
COMMISSION
AND THE
TOWN OF FAIRHAVEN,
MASSACHUSETTS

DRAWING TITLE:

TONNESSON PARK
DREDGE AREAS-
EXISTING CONDITIONS

NOT
FOR CONSTRUCTION

Scale: 1"=20'



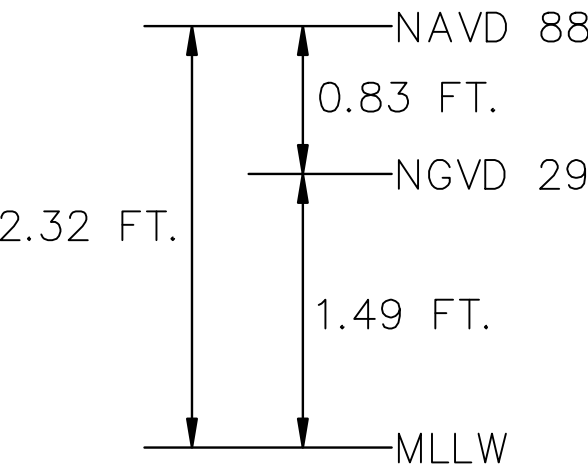
Date 9/5/08	Drawing No.
Proj. Mgr. JAB	
Design CW,M	
Check CM	
Drawn CWM	E-1
Job. No. 6615	
Last Rev. 10/30/08	



NOTES

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4. BASE PLAN FOR THIS FIGURE OBTAINED FROM U.S. ARMY CORPS OF ENGINEERS. EXISTING CONDITIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
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GRAPHIC DEPICTION OF
DATUM SEPARATIONS FOR
NEW BEDFORD HARBOR



115 BROAD STREET
SUITE 200
BOSTON MA 02110
(617) 728-0070

REVISIONS

NO.	DATE	DESCRIPTION
1.	9/05/08	PRELIM. DREDGE LAYOUT
2.	11/14/08	BID SET

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PROJECT TITLE:

NEW BEDFORD HARBOR
NAVIGATIONAL
DREDGE - PHASE III,
PART A

PREPARED FOR:

THE NEW BEDFORD
HARBOR DEVELOPMENT
COMMISSION
AND THE
TOWN OF FAIRHAVEN,
MASSACHUSETTS

DRAWING TITLE:

GIFFORD STREET BOAT
RAMP DREDGE AREA -
EXISTING CONDITIONS

NOT
FOR CONSTRUCTION

Scale: 1"=60'



Date	9/05/08	Drawing No.
Proj. Mgr.	JAB	
Design	CWM	
Check	CM	
Drawn	CWM	
Job. No.	6615	
Last Rev.	10/30/08	

E-2



NOTES

- COORDINATES SHOWN ARE IN THE STATE PLANE COORDINATE SYSTEM, MASSACHUSETTS MAINLAND ZONE 2001, REFERENCED TO THE 1983 NORTH AMERICAN DATUM.
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115 BROAD STREET
SUITE 200
BOSTON MA 02110
(617) 728-0070

REVISIONS

NO.	DATE	DESCRIPTION
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2.	11/14/08	BID SET

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PROJECT TITLE:

**NEW BEDFORD HARBOR
NAVIGATIONAL
DREDGE - PHASE III,
PART A**

PREPARED FOR:

**THE NEW BEDFORD
HARBOR DEVELOPMENT
COMMISSION
AND THE
TOWN OF FAIRHAVEN,
MASSACHUSETTS**

DRAWING TITLE:

**SOUTH TERMINAL
DREDGE AREAS -
EXISTING CONDITIONS**

**NOT
FOR CONSTRUCTION**

Scale: 1"=80'



Date	9/05/08	Drawing No.	
Proj. Mgr.	JAB		
Design	CWM		
Check	CM		
Drawn	CWM		
Job. No.	6615		
Last Rev.	10/30/08		

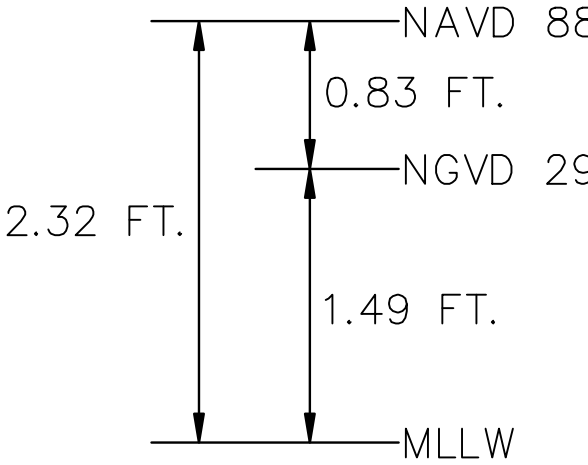
E-3



NOTES

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GRAPHIC DEPICTION OF
DATUM SEPARATIONS FOR
NEW BEDFORD HARBOR



EBB
FLOOD



115 BROAD STREET
SUITE 200
BOSTON MA 02110
(617) 728-0070

REVISIONS

NO.	DATE	DESCRIPTION
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2.	11/14/08	BID SET

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PROJECT TITLE:

NEW BEDFORD HARBOR
NAVIGATIONAL
DREDGE - PHASE III,
PART A

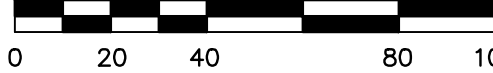
PREPARED FOR:

THE NEW BEDFORD
HARBOR DEVELOPMENT
COMMISSION
AND THE
TOWN OF FAIRHAVEN,
MASSACHUSETTS

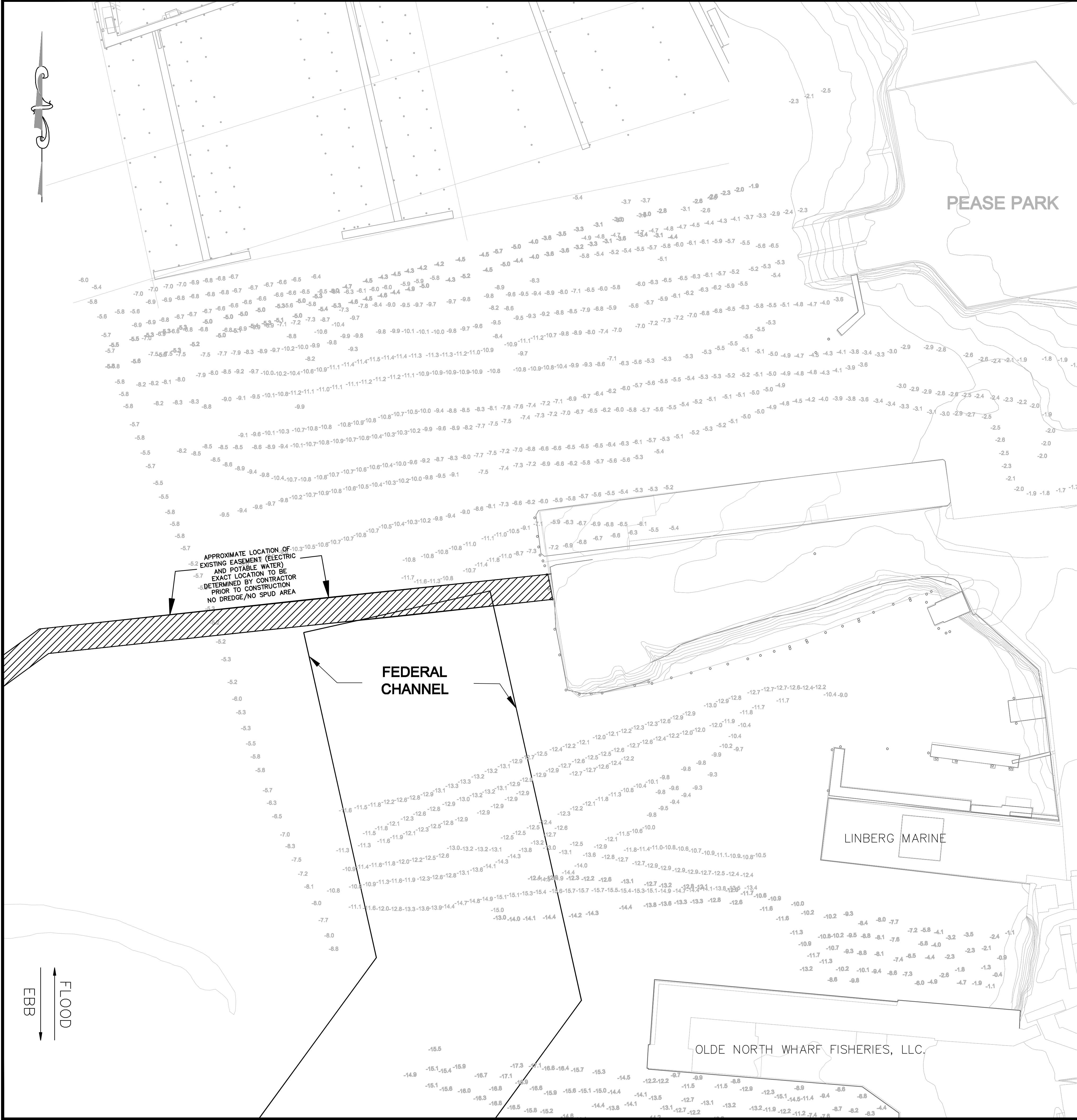
DRAWING TITLE:

WARREN ALEXANDER
SOUTH AND UNION
WHARF DREDGE AREAS-
EXISTING CONDITIONS
NOT
FOR CONSTRUCTION

Scale: 1"=40'



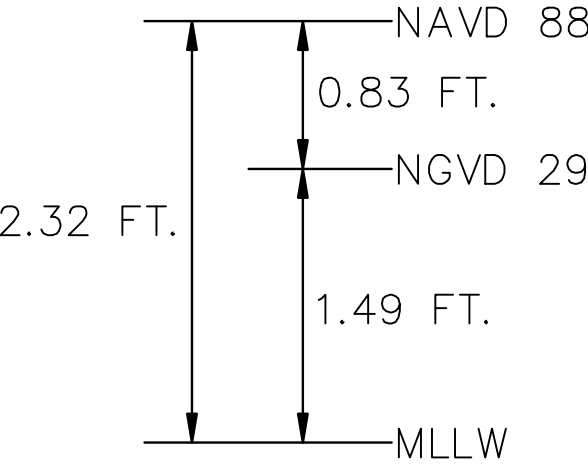
Date	9/5/08	Drawing No.	
Proj. Mgr.	JAB		
Design	CWM		
Check	CM		
Drawn	CWM		
Job. No.	6615		
Last Rev.	10/30/08		



NOTES

1. COORDINATES SHOWN ARE IN THE STATE PLANE COORDINATE SYSTEM, MASSACHUSETTS MAINLAND ZONE 2001, REFERENCED TO THE 1983 NORTH AMERICAN DATUM.
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GRAPHIC DEPICTION OF
DATUM SEPARATIONS FOR
NEW BEDFORD HARBOR



115 BROAD STREET
SUITE 200
BOSTON MA 02110
(617) 728-0070

REVISIONS

NO.	DATE	DESCRIPTION
1.	9/05/08	PRELIM. DREDGE LAYOUT
2.	11/14/08	BID SET

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PROJECT TITLE:

NEW BEDFORD HARBOR
NAVIGATIONAL
DREDGE - PHASE III,
PART A

PREPARED FOR:

THE NEW BEDFORD
HARBOR DEVELOPMENT
COMMISSION
AND THE
TOWN OF FAIRHAVEN,
MASSACHUSETTS

DRAWING TITLE:

LINBERG DREDGE AREAS-
EXISTING CONDITIONS

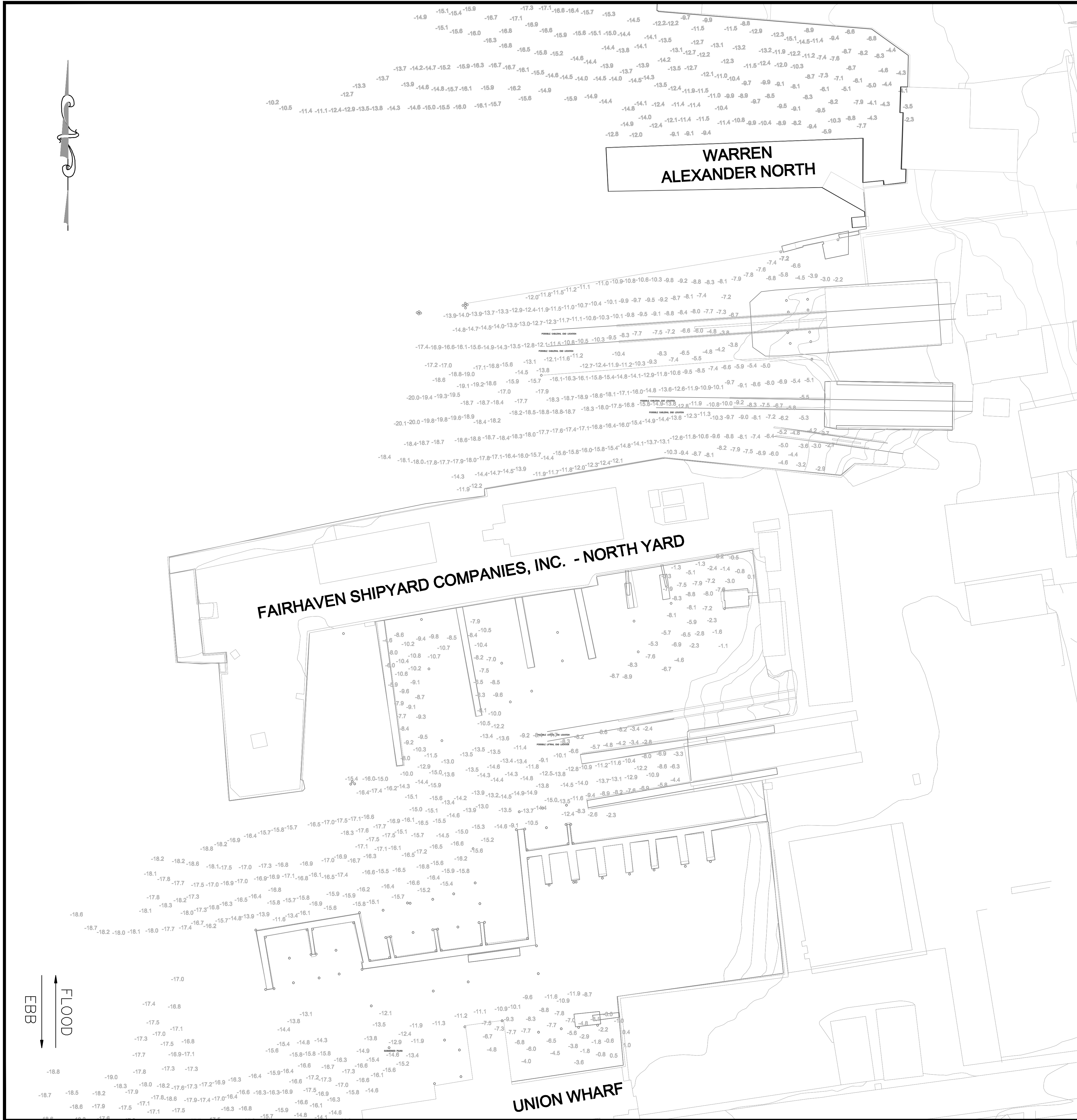
NOT
FOR CONSTRUCTION

Scale: 1"=40'



Date	9/5/08	Drawing No.
Proj. Mgr.	JAB	
Design	CWM	
Check	CM	
Drawn	CWM	
Job. No.	6615	
Last Rev.	10/30/08	

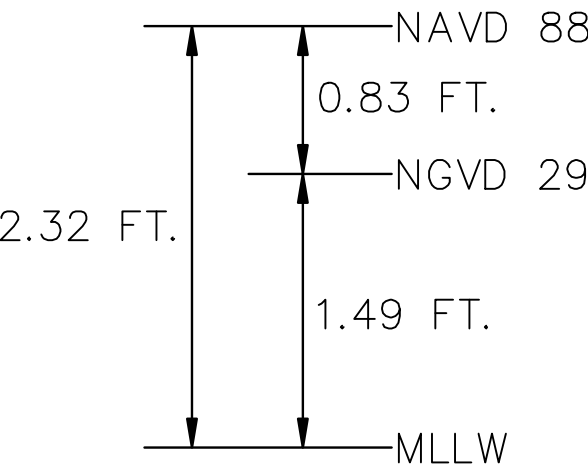
E-5



NOTES

1. COORDINATES SHOWN ARE IN THE STATE PLANE COORDINATE SYSTEM, MASSACHUSETTS MAINLAND ZONE 2001, REFERENCED TO THE 1983 NORTH AMERICAN DATUM.
2. HYDROGRAPHIC SURVEY IS A COMPILATION OF SURVEYS PERFORMED BETWEEN 9-11-06 AND 11-6-08.
3. HYDROGRAPHIC SURVEY DATUM IS REFERENCED TO MEAN LOWER LOW WATER (MLLW) ON THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SERVICE TIDAL BENCHMARK BM7584 J 1977 - SURVEY DISK SET FLUSH IN THE SURFACE OF A CONCRETE SIDEWALK ON THE SOUTH SIDE OF U.S.HIGHWAY 6 ON THE NORTH SIDE OF THE MOBIL SERVICE STATION, 4 FEET (1 M) WEST OF A FIRE HYDRANT AND 1 FOOT (0.3 M) SOUTH OF U.S. HIGHWAY 6. DATUM SEPARATIONS WERE COMPUTED BY COLER AND COLANTONIO, INC. FEBRUARY 2002 AS MLLW -1.52 FT = NGVD29 0.0 FT. TO OBTAIN VALUES IN NGVD29, SUBTRACT 1.52 FEET FROM THE INDICATED VALUE AT ANY POINT. HORIZONTAL CONTROL CAN BE OBTAINED FROM THE ENGINEER.
4. BASE PLAN FOR THIS FIGURE OBTAINED FROM U.S. ARMY CORPS OF ENGINEERS. EXISTING CONDITIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
5. HORIZONTAL AND VERTICAL CONTROL HAVE BEEN PROVIDED BY THE OWNER AND HAVE NOT BEEN INDEPENDENTLY VERIFIED. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF CONTROL DATA.
6. THE INFORMATION DEPICTED ON THIS DRAWING REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED ABOVE AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS AT THE TIME OF THE SURVEYS AND AT THE SOUNDING POINTS NOTED ON THE DRAWING.
7. EXISTING UTILITIES WITHIN THE SITE HAVE NOT BEEN IDENTIFIED. IDENTIFICATION AND PROTECTION OF EXISTING UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
8. LIMITS OF FEDERAL NAVIGATIONAL CHANNEL OBTAINED FROM U.S. ARMY CORPS OF ENGINEERS.
9. NO SPUDGING SHALL OCCUR IN ANY AREA DESIGNATED NO SPUD ZONE.

GRAPHIC DEPICTION OF
DATUM SEPARATIONS FOR
NEW BEDFORD HARBOR



115 BROAD STREET
SUITE 200
BOSTON MA 02110
(617) 728-0070

REVISIONS

NO.	DATE	DESCRIPTION
1.	9/05/08	PRELIM. DREDGE LAYOUT
2.	11/14/08	BID SET

THESE DRAWINGS PREPARED BY APEX FOR THIS PROJECT ARE INSTRUMENTS OF APEX'S SERVICE FOR USE SOLELY WITH RESPECT TO THIS PROJECT, AND APEX SHALL BE DEEMED THE AUTHOR OF THE DRAWING AND SHALL RETAIN ALL COMMON LAW, STATUTORY AND OTHER RESERVED RIGHTS WITH RESPECT THERETO, INCLUDING COPYRIGHT. THE DOCUMENTS SHALL NOT BE USED ON OTHER PROJECTS, FOR ADDITIONS TO THIS PROJECT OR FOR COMPLETION OF THIS PROJECT BY OTHERS, EXCEPT BY AGREEMENT IN WRITING AND WITH APPROPRIATE COMPENSATION TO APEX.



PROJECT TITLE:

NEW BEDFORD HARBOR
NAVIGATIONAL
DREDGE - PHASE III,
PART A

PREPARED FOR:

THE NEW BEDFORD
HARBOR DEVELOPMENT
COMMISSION
AND THE
TOWN OF FAIRHAVEN,
MASSACHUSETTS

DRAWING TITLE:

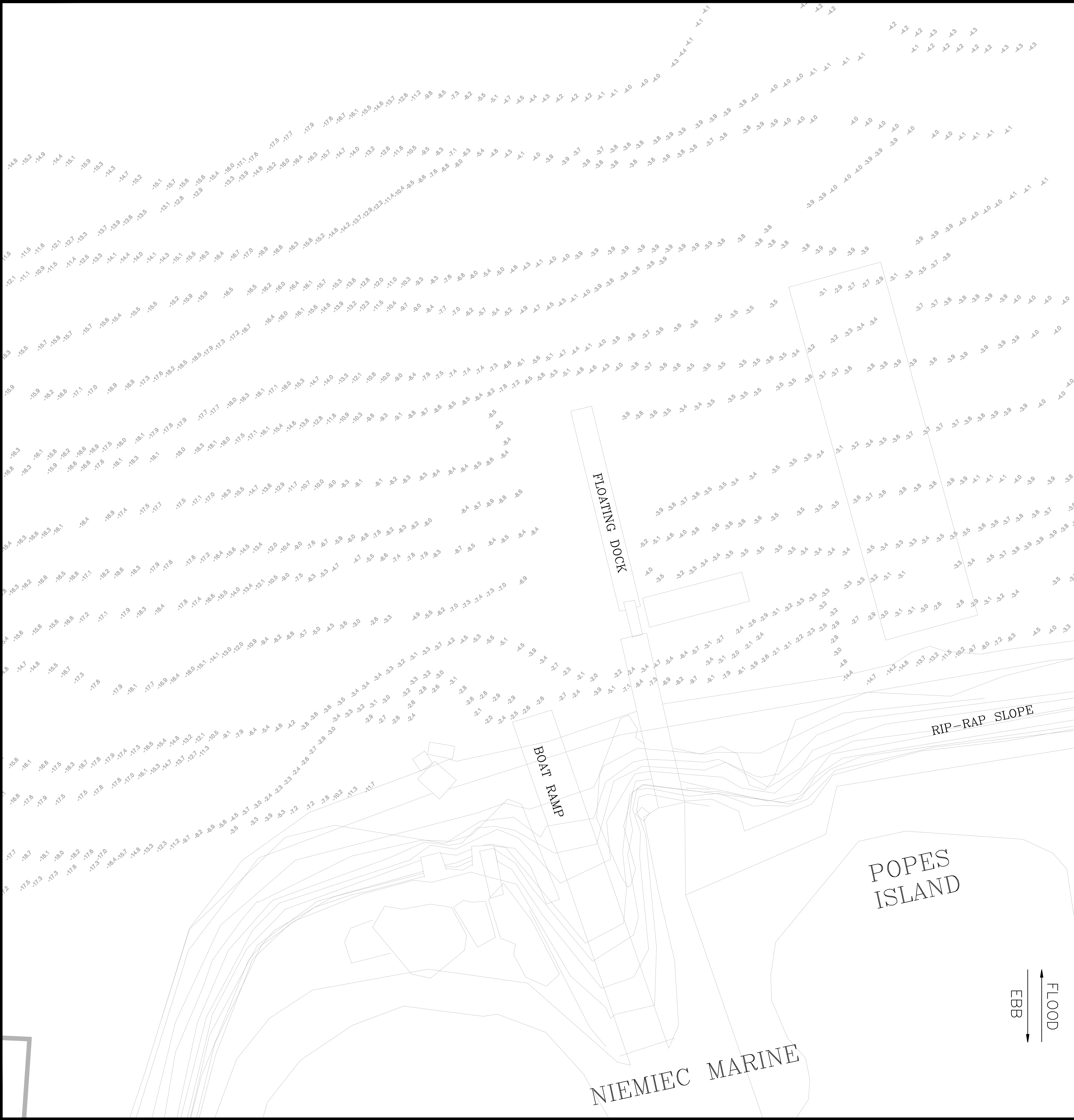
WARREN ALEXANDER
NORTH AND FAIRHAVEN
SHIPYARD DREDGE AREAS
- EXISTING CONDITIONS
NOT
FOR CONSTRUCTION

Scale: 1"=40'



Date	9/5/08	Drawing No.	
Proj. Mgr.	JAB		
Design	CWM		
Check	CM		
Drawn	CWM		
Job. No.	6615		
Last Rev.	10/30/08		

E-6

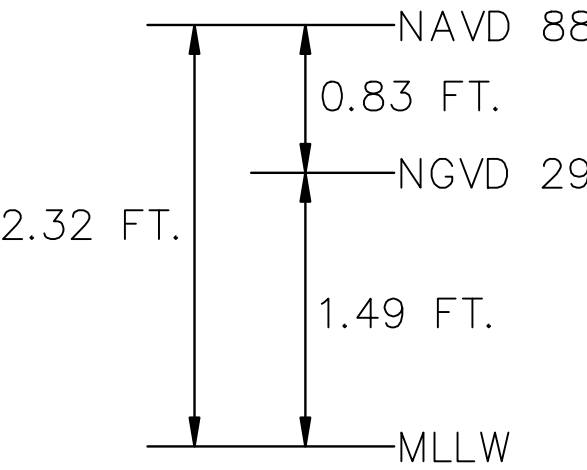


NOTES

- 1. COORDINATES SHOWN ARE IN THE STATE PLANE COORDINATE SYSTEM, MASSACHUSETTS MAINLAND ZONE 2001, REFERENCED TO THE 1983 NORTH AMERICAN DATUM.
- 2. HYDROGRAPHIC SURVEY IS A COMPILATION OF SURVEYS PREFORMED BETWEEN 9-11-08 AND 11-6-08.
- 3. HYDROGRAPHIC SURVEY DATUM IS REFERENCED TO MEAN LOWER LOW WATER (MLLW) ON THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SERVICE TIDAL BENCHMARK BM7584 J 1977 - SURVEY DISK SET FLUSH IN THE SURFACE OF A CONCRETE SIDEWALK ON THE SOUTH SIDE OF U.S.HIGHWAY 6 ON THE NORTH SIDE OF THE MOBIL SERVICE STATION, 4 FEET (1 M) WEST OF A FIRE HYDRANT AND 1 FOOT (0.3 M) SOUTH OF U.S. HIGHWAY 6. DATUM SEPARATIONS WERE COMPUTED BY COLER AND COLANTONIO, INC. FEBRUARY 2002 AS MLLW - 1.52 FT = NGVD29 0.0 FT. TO OBTAIN VALUES IN NGVD29, SUBTRACT 1.52 FEET FROM THE INDICATED VALUE AT ANY POINT. HORIZONTAL CONTROL CAN BE OBTAINED FROM THE ENGINEER.
- 4. BASE PLAN FOR THIS FIGURE OBTAINED FROM U.S. ARMY CORPS OF ENGINEERS. EXISTING CONDITIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
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- 9. NO SPUDDING SHALL OCCUR IN ANY AREA DESIGNATED NO SPUD ZONE.



GRAPHIC DEPICTION OF
DATUM SEPARATIONS FOR
NEW BEDFORD HARBOR



115 BROAD STREET
SUITE 200
BOSTON MA 02110
(617) 728-0070

REVISIONS

NO.	DATE	DESCRIPTION
1.	9/05/08	PRELIM. DREDGE LAYOUT
2.	11/14/08	BID SET

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PROJECT TITLE:

NEW BEDFORD HARBOR
NAVIGATIONAL
DREDGE - PHASE III,
PART A

PREPARED FOR:

THE NEW BEDFORD
HARBOR DEVELOPMENT
COMMISSION
AND THE
TOWN OF FAIRHAVEN,
MASSACHUSETTS

DRAWING TITLE:

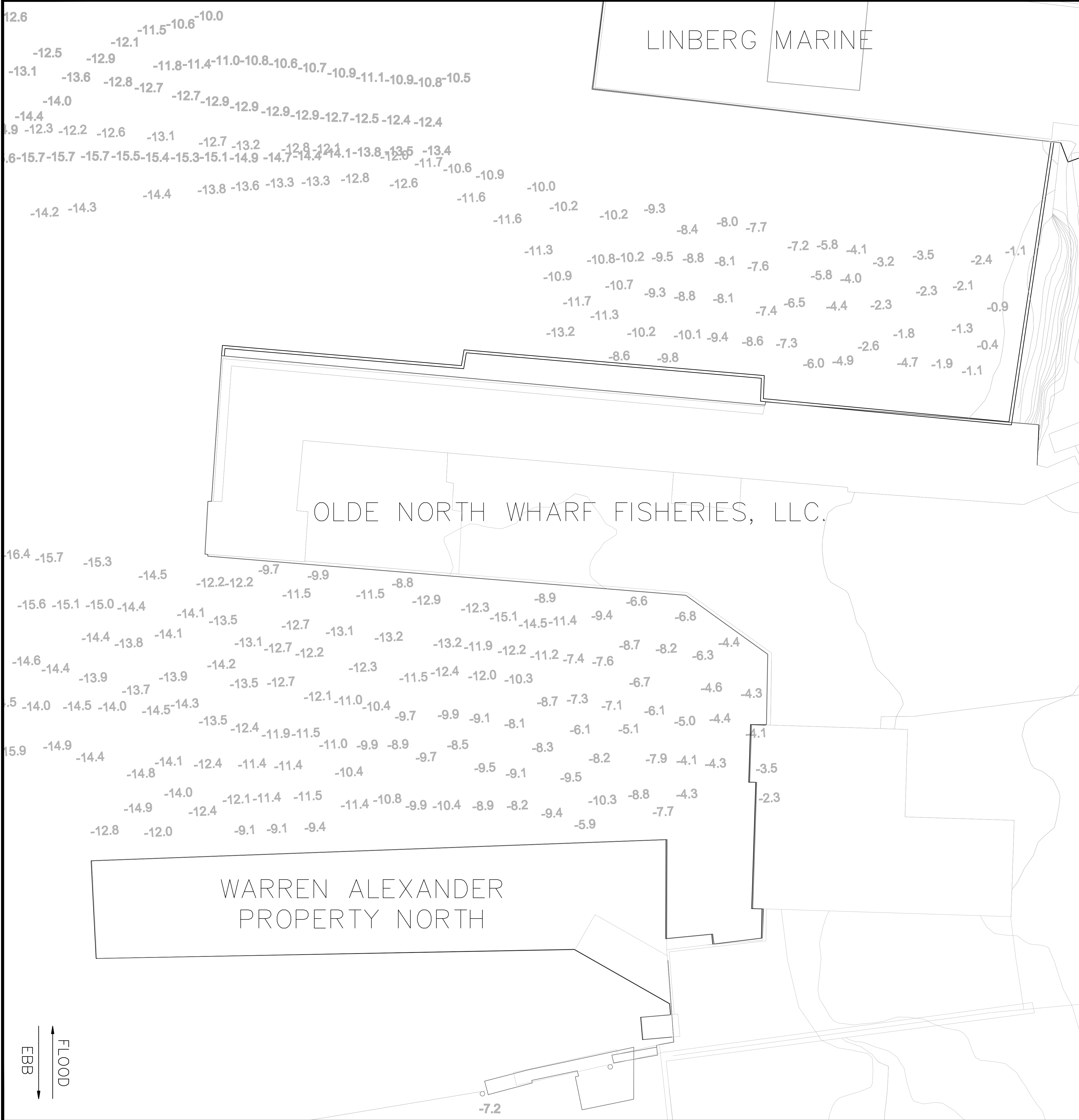
NIEMIEC MARINE
DREDGE AREA- EXISTING
CONDITIONS

NOT
FOR CONSTRUCTION

Scale: 1"=20'



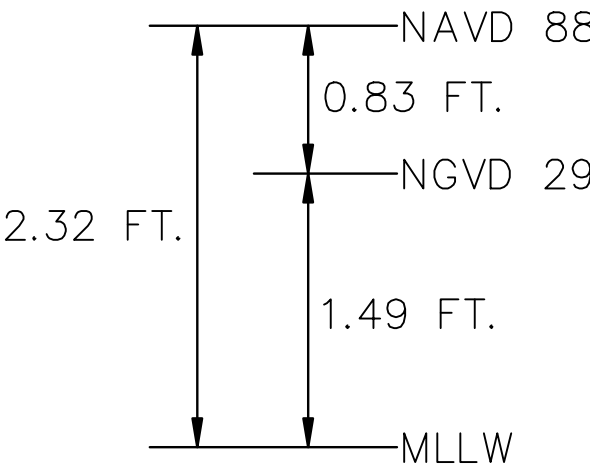
Date 9/5/08	Drawing No.
Proj. Mgr. JAB	
Design CWM	
Check CM	
Drawn CWM	E-7
Job. No. 6615	
Last Rev. 10/30/08	



NOTES

- COORDINATES SHOWN ARE IN THE STATE PLANE COORDINATE SYSTEM, MASSACHUSETTS MAINLAND ZONE 2001, REFERENCED TO THE 1983 NORTH AMERICAN DATUM.
- HYDROGRAPHIC SURVEY IS A COMPILATION OF SURVEYS PREFORMED BETWEEN 9-11-06 AND 11-6-08.
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GRAPHIC DEPICTION OF
DATUM SEPARATIONS FOR
NEW BEDFORD HARBOR



115 BROAD STREET
SUITE 200
BOSTON MA 02110
(617) 728-0070

REVISIONS

NO.	DATE	DESCRIPTION
1.	9/05/08	PRELIM. DREDGE LAYOUT
2.	11/14/08	BID SET

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PROJECT TITLE:

NEW BEDFORD HARBOR
NAVIGATIONAL
DREDGE - PHASE III,
PART A

PREPARED FOR:

THE NEW BEDFORD
HARBOR DEVELOPMENT
COMMISSION
AND THE
TOWN OF FAIRHAVEN,
MASSACHUSETTS

DRAWING TITLE:

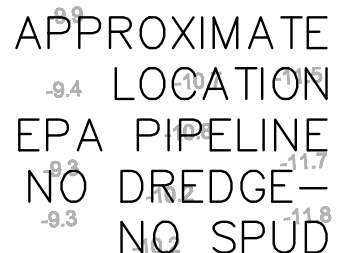
OLDE NORTH WHARF
FISHERIES DREDGE
AREAS- EXISTING
CONDITIONS
NOT
FOR CONSTRUCTION

Scale: 1"=40'

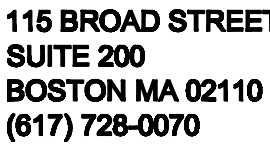


Date 9/5/08	Drawing No.
Proj. Mgr. JAB	
Design CWM	
Check CM	
Drawn CWM	
Job. No. 6615	
Last Rev. 10/30/08	

E-8



1. COORDINATES SHOWN ARE IN THE STATE PLANE COORDINATE SYSTEM, MASSACHUSETTS MAINLAND ZONE 2001, REFERENCED TO THE 1983 NORTH AMERICAN DATUM.
2. HYDROGRAPHIC SURVEY IS A COMPILATION OF SURVEYS PERFORMED BETWEEN 9-11-06 AND 11-6-08.
3. HYDROGRAPHIC SURVEY DATUM IS REFERENCED TO MEAN LOWER LOW WATER (MLLW) ON THE INTERNATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SERVICE TIDAL BENCHMARK BM7584 + 1977 - SURVEY DISK SET FLUSH IN THE SURFACE OF A CONCRETE SIDEWALK ON THE SOUTH SIDE OF U.S.HIGHWAY 6 ON THE NORTH SIDE OF THE MOBIL SERVICE STATION, 4 FEET (1 M) WEST OF A FIRE HYDRANT AND 1 FOOT (0.3 M) SOUTH OF U.S. HIGHWAY 6. DATUM SEPARATIONS WERE COMPUTED BY COLER AND COLANTONIO, INC. FEBRUARY 2002 AS MLLW - 1.52 FEET (0.46 M) TO OBTAIN VALUES IN NAVD83, SUBTRACT 1.52 FEET FROM THE INDICATED VALUE AT ANY POINT. HORIZONTAL CONTROL CAN BE OBTAINED FROM THE ENGINEER.
4. BASE PLAN FOR THIS FIGURE OBTAINED FROM U.S. ARMY CORPS OF ENGINEERS. EXISTING CONDITIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
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9. NO SPUDDING SHALL OCCUR IN ANY AREA DESIGNATED NO SPUD ZONE.

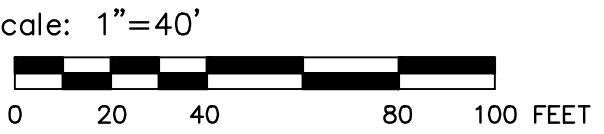


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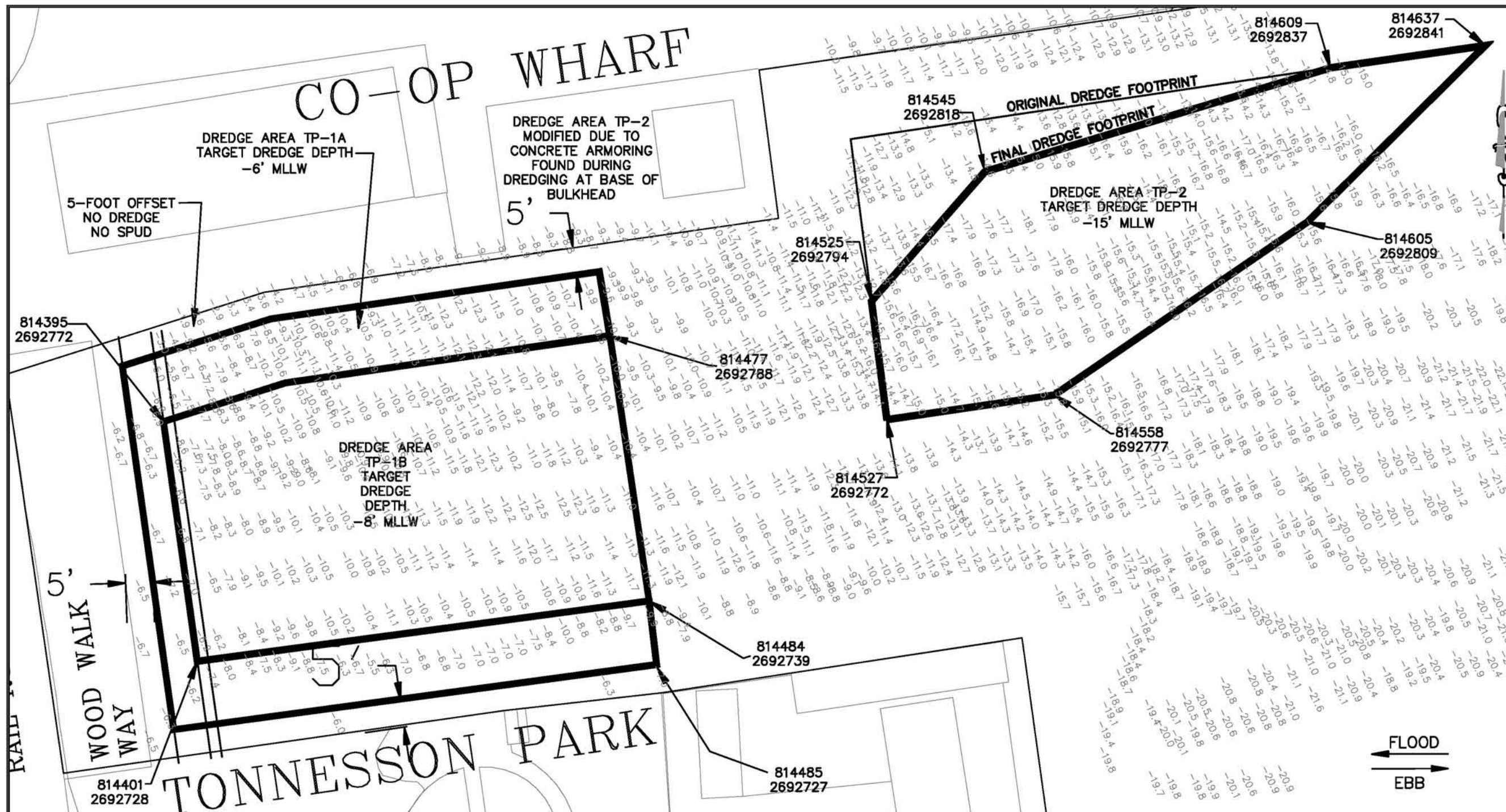


DRAWING TITLE:

**PACKER FUEL &
MAR-LEES
DREDGE AREAS-
EXISTING CONDITIONS
NOT
FOR CONSTRUCTION**



Date 9/5/08	Drawing No. E-9
Proj. Mgr. JAB	
Design CWM	
Check CM	
Drawn CWM	
Job. No. 6615	
Last Rev. 10/30/08	



184 HIGH STREET
SUITE 502
BOSTON MA 02110
(617) 728-0070

REVISIONS

NO.	DATE	DESCRIPTION
1.	9/05/08	PRELIM. DREDGE LAYOUT
2.	11/14/08	BID SET
3.	3/12/09	FOR CONSTRUCTION
4.	5/23/09	POST-DREDGE

THESE DRAWINGS PREPARED BY APEX FOR THIS PROJECT ARE INSTRUMENTS OF APEX'S SERVICE FOR USE SOLELY WITH RESPECT TO THIS PROJECT, AND APEX SHALL BE DEEMED THE AUTHOR OF THE DRAWING AND SHALL RETAIN ALL COMMON LAW, STATUTORY AND OTHER RESERVED RIGHTS WITH RESPECT THERETO, INCLUDING COPYRIGHT. THE DOCUMENTS SHALL NOT BE USED ON OTHER PROJECTS, FOR ADDITIONS TO THIS PROJECT OR FOR COMPLETION OF THIS PROJECT BY OTHERS, EXCEPT BY AGREEMENT IN WRITING AND WITH APPROPRIATE COMPENSATION TO APEX.



PROJECT TITLE:

NEW BEDFORD HARBOR
NAVIGATIONAL
DREDGE - PHASE III,
PART A

PREPARED FOR:

THE NEW BEDFORD
HARBOR DEVELOPMENT
COMMISSION
AND THE
TOWN OF FAIRHAVEN,
MASSACHUSETTS

DRAWING TITLE:

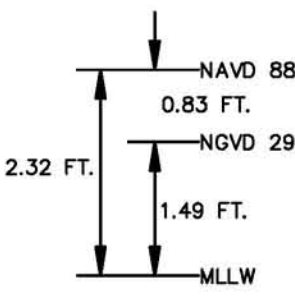
TONNESSON PARK
DREDGE AREAS
POST - DREDGE

Scale: 1"=20'	
0 5 10 20 FEET	
Date 9/5/08	Drawing No. P-1
Proj. Mgr. JAB	
Design GCD	
Check CM	
Drawn GCD	
Job No. 6615	Last Rev. 5/23/09

NOTES

- COORDINATES SHOWN ARE IN THE STATE PLANE COORDINATE SYSTEM, MASSACHUSETTS MAINLAND ZONE 2001, REFERENCED TO THE 1983 NORTH AMERICAN DATUM.
- HYDROGRAPHIC SURVEY WAS PERFORMED BY APEX COMPANIES LLC ON 5/23/09.
- HYDROGRAPHIC SURVEY DATUM IS REFERENCED TO MEAN LOWER LOW WATER (MLLW) ON THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SERVICE TIDAL BENCHMARK BM7584 J 1977 - SURVEY DISK SET FLUSH IN THE SURFACE OF A CONCRETE SIDEWALK ON THE SOUTH SIDE OF U.S. HIGHWAY 6 ON THE NORTH SIDE OF THE MOBIL SERVICE STATION, 4 FEET (1 M) WEST OF A FIRE HYDRANT AND 1 FOOT (0.3 M) SOUTH OF U.S. HIGHWAY 6. DATUM SEPARATIONS WERE COMPUTED BY COLER AND COLANTONIO, INC. JUNE 2008, AS MLLW - 1.49 FT = NGVD29 0.0 FT. TO OBTAIN VALUES IN NGVD29, SUBTRACT 1.49 FEET FROM THE INDICATED VALUE AT ANY POINT. HORIZONTAL CONTROL CAN BE OBTAINED FROM THE ENGINEER.
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- THE SOUNDINGS SHOWN HEREON ARE A REDUCED SELECTION OF DATA COLLECTED AT THE TIME OF THE SURVEY. THE DATA REDUCTION WAS PERFORMED USING THE SORT UTILITY WITHIN THE HYPACK SOFTWARE PACKAGE. THIS SORTING UTILITY BIASES THE SOUNDING SELECTION TOWARDS THE MINIMUM (SHOALEST) SOUNDING IN THE SAMPLING AREA.

GRAPHIC DEPICTION OF
DATUM SEPARATIONS FOR
NEW BEDFORD HARBOR

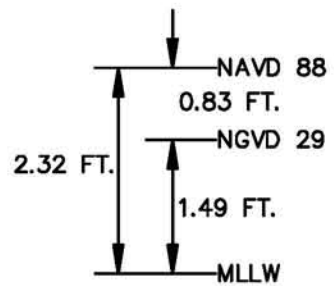




NOTES

1. COORDINATES SHOWN ARE IN THE STATE PLANE COORDINATE SYSTEM, MASSACHUSETTS MAINLAND ZONE 2001, REFERENCED TO THE 1983 NORTH AMERICAN DATUM.
2. HYDROGRAPHIC SURVEY WAS PERFORMED BY APEX COMPANIES LLC ON 8/14/09.
3. HYDROGRAPHIC SURVEY DATUM IS REFERENCED TO MEAN LOWER LOW WATER (MLLW) ON THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SERVICE TIDAL BENCHMARK BM7584 J 1977 - SURVEY DISK SET FLUSH IN THE SURFACE OF A CONCRETE SIDEWALK ON THE SOUTH SIDE OF U.S. HIGHWAY 6 ON THE NORTH SIDE OF THE MOBIL SERVICE STATION, 4 FEET (1 M) WEST OF A FIRE HYDRANT AND 1 FOOT (0.3 M) SOUTH OF U.S. HIGHWAY 6. DATUM SEPARATIONS WERE COMPUTED BY COLER AND COLANTONIO, INC. JUNE 2008, AS MLLW - 1.49 FT = NGVD29 0.0 FT. TO OBTAIN VALUES IN NGVD29, SUBTRACT 1.49 FEET FROM THE INDICATED VALUE AT ANY POINT. HORIZONTAL CONTROL CAN BE OBTAINED FROM THE ENGINEER.
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6. THE SOUNDINGS SHOWN HEREON ARE A REDUCED SELECTION OF DATA COLLECTED AT THE TIME OF THE SURVEY. THE DATA REDUCTION WAS PERFORMED USING THE SORT UTILITY WITHIN THE HYPACK SOFTWARE PACKAGE. THIS SORTING UTILITY BIASES THE SOUNDING SELECTION TOWARDS THE MINIMUM (SHOALEST) SOUNDING IN THE SAMPLING AREA.

GRAPHIC DEPICTION OF DATUM SEPARATIONS FOR NEW BEDFORD HARBOR



184 HIGH STREET
SUITE 502
BOSTON MA 02110
(617) 728-0070

REVISIONS

NO.	DATE	DESCRIPTION
1.	9/05/06	PRELIM. DREDGE LAYOUT
2.	11/14/08	BID SET
3.	3/12/09	FOR CONSTRUCTION
4.	8/14/09	POST-DREDGE

THESE DRAWINGS PREPARED BY APEX FOR THIS PROJECT ARE INSTRUMENTS OF APEX'S SERVICE FOR USE SOLELY WITH RESPECT TO THIS PROJECT, AND APEX SHALL BE DEEMED THE AUTHOR OF THE DRAWING AND SHALL RETAIN ALL COMMON LAW, STATUTORY AND OTHER RESERVED RIGHTS WITH RESPECT THERETO, INCLUDING COPYRIGHT. THE DOCUMENTS SHALL NOT BE USED ON OTHER PROJECTS, FOR ADDITIONS TO THIS PROJECT OR FOR COMPLETION OF THIS PROJECT BY OTHERS, EXCEPT BY AGREEMENT IN WRITING AND WITH APPROPRIATE COMPENSATION TO APEX.



PROJECT TITLE:
**NEW BEDFORD HARBOR
NAVIGATIONAL
DREDGE - PHASE III,
PART A**

PREPARED FOR:
**THE NEW BEDFORD
HARBOR DEVELOPMENT
COMMISSION
AND THE
TOWN OF FAIRHAVEN,
MASSACHUSETTS**

DRAWING TITLE:
**GIFFORD STREET BOAT
RAMP DREDGE AREA
POST - DREDGE**

Scale: 1"=100'	
Date 9/5/08	Drawing No.
Proj. Mgr. JAB	P-2
Designer GCD	
Checker CM	
Drawn GCD	
Job No. 6615	
Issued Rev. 8/14/09	



NOTES

1. COORDINATES SHOWN ARE IN THE STATE PLANE COORDINATE SYSTEM, MASSACHUSETTS MAINLAND ZONE 2001, REFERENCED TO THE 1983 NORTH AMERICAN DATUM.
2. HYDROGRAPHIC SURVEY WAS PERFORMED BY APEX COMPANIES LLC ON 10/14/09.
3. HYDROGRAPHIC SURVEY DATUM IS REFERENCED TO MEAN LOWER LOW WATER (MLLW) ON THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SERVICE TIDAL BENCHMARK BM7584 J 1977 - SURVEY DISK SET FLUSH IN THE SURFACE OF A CONCRETE SIDEWALK ON THE SOUTH SIDE OF U.S. HIGHWAY 6 ON THE NORTH SIDE OF THE MOBIL SERVICE STATION, 4 FEET (1 M) WEST OF A FIRE HYDRANT AND 1 FOOT (0.3 M) SOUTH OF U.S. HIGHWAY 6. DATUM SEPARATIONS WERE COMPUTED BY COLER AND COLANTONIO, INC. JUNE 2008. AS MLLW - 1.49 FT = NGVD29 0.0 FT. TO OBTAIN VALUES IN NGVD29, SUBTRACT 1.49 FEET FROM THE INDICATED VALUE AT ANY POINT. HORIZONTAL CONTROL CAN BE OBTAINED FROM THE ENGINEER.
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184 HIGH STREET
SUITE 502
BOSTON MA 02110
(617) 728-0070

REVISIONS

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2.	11/14/08	BID SET
3.	3/12/09	FOR CONSTRUCTION
4.	10/14/09	POST-DREDGE

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PROJECT TITLE:

NEW BEDFORD HARBOR
NAVIGATIONAL
DREDGE - PHASE III,
PART A

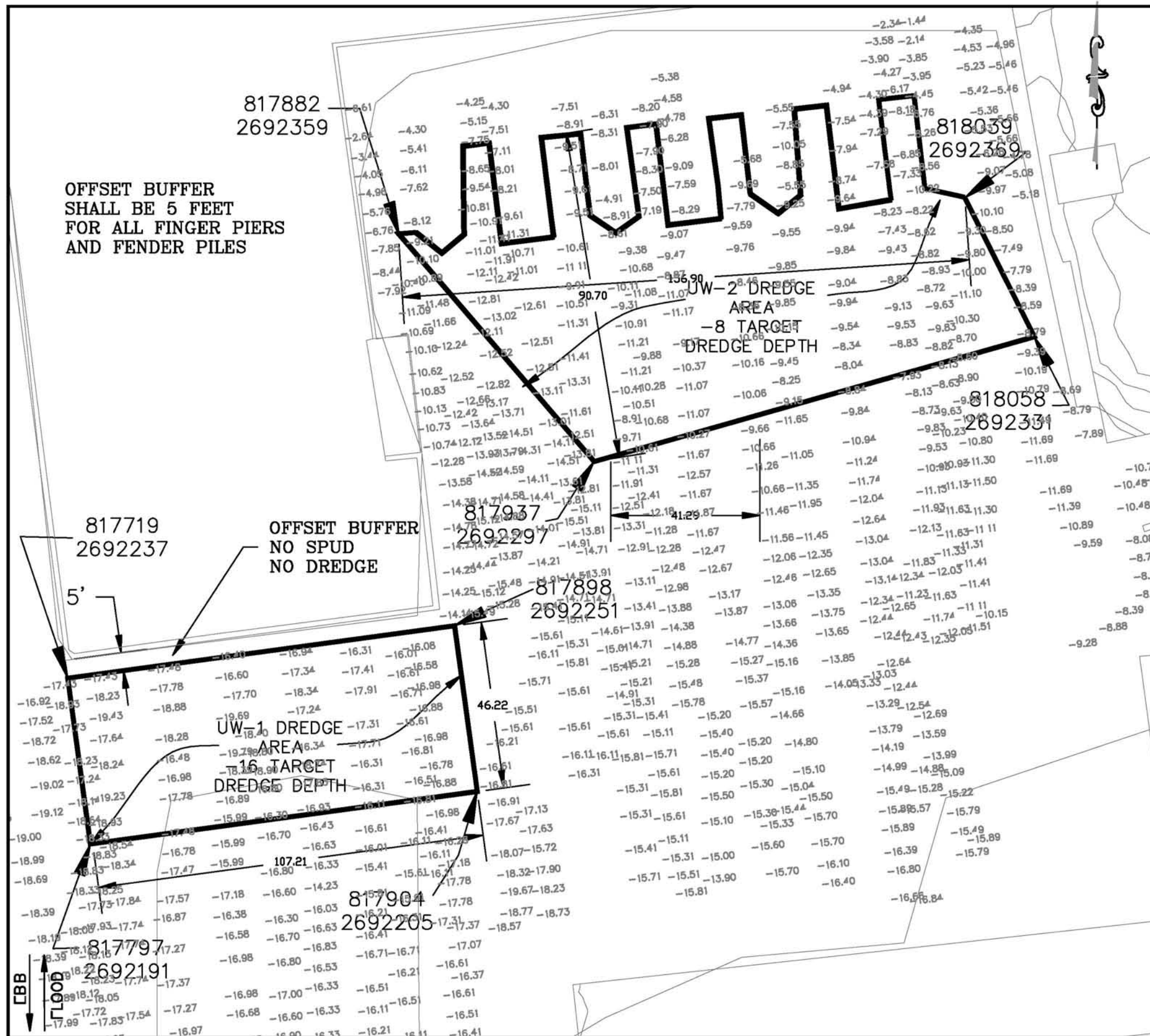
PREPARED FOR:

THE NEW BEDFORD
HARBOR DEVELOPMENT
COMMISSION
AND THE
TOWN OF FAIRHAVEN,
MASSACHUSETTS

DRAWING TITLE:

SOUTH TERMINAL
DREDGE AREA
POST - DREDGE

Scale: 1"=50'	
Date 9/5/08	Drawing No.
Proj. Mgr. JAB	P-3
Designer GCD	
Checker CM	
Drawn GCD	
Job No. 6615	
Issued Rev. 10/14/09	



NOTES

1. COORDINATES SHOWN ARE IN THE STATE PLANE COORDINATE SYSTEM, MASSACHUSETTS MAINLAND ZONE 2001, REFERENCED TO THE 1983 NORTH AMERICAN DATUM.
2. HYDROGRAPHIC SURVEY WAS PERFORMED BY APEX COMPANIES LLC ON 5/23/09.
3. HYDROGRAPHIC SURVEY DATUM IS REFERENCED TO MEAN LOWER LOW WATER (MLLW) ON THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SERVICE TIDAL BENCHMARK BM7584 J 1977 - SURVEY DISK SET FLUSH IN THE SURFACE OF A CONCRETE SIDEWALK ON THE SOUTH SIDE OF U.S. HIGHWAY 6 ON THE NORTH SIDE OF THE MOBIL SERVICE STATION, 4 FEET (1 M) WEST OF A FIRE HYDRANT AND 1 FOOT (0.3 M) SOUTH OF U.S. HIGHWAY 6. DATUM SEPARATIONS WERE COMPUTED BY COLER AND COLANTONIO, INC. JUNE 2008, AS MLLW - 1.49 FT = NGVD29 0.0 FT. TO OBTAIN VALUES IN NGVD29, SUBTRACT 1.49 FEET FROM THE INDICATED VALUE AT ANY POINT. HORIZONTAL CONTROL CAN BE OBTAINED FROM THE ENGINEER.
4. BASE PLAN FOR THIS FIGURE OBTAINED FROM U.S. ARMY CORPS OF ENGINEERS. EXISTING CONDITIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
5. THE INFORMATION DEPICTED ON THIS DRAWING REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED ABOVE AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS AT THE TIME OF THE SURVEYS AND AT THE SOUNDING POINTS NOTED ON THE DRAWING.
6. THE SOUNDINGS SHOWN HEREON ARE A REDUCED SELECTION OF DATA COLLECTED AT THE TIME OF THE SURVEY. THE DATA REDUCTION WAS PERFORMED USING THE SORT UTILITY WITHIN THE HYPACK SOFTWARE PACKAGE. THIS SORTING UTILITY BIASES THE SOUNDING SELECTION TOWARDS THE MINIMUM (SHOALEST) SOUNDING IN THE SAMPLING AREA.



184 HIGH STREET
SUITE 302
BOSTON MA 02110
(617) 728-0070

REVISIONS

NO.	DATE	DESCRIPTION
1.	9/05/06	PRELIM. DREDGE LAYOUT
2.	11/14/06	BID SET
3.	3/12/09	FOR CONSTRUCTION
4.	5/23/09	POST-DREDGE

THESE DRAWINGS PREPARED BY APEX FOR THIS PROJECT ARE INSTRUMENTS OF APEX'S SERVICE FOR USE SOLELY WITH RESPECT TO THIS PROJECT, AND APEX SHALL BE DEEMED THE AUTHOR OF THE DRAWING AND SHALL RETAIN ALL COMMON LAW, STATUTORY AND OTHER RESERVED RIGHTS WITH RESPECT THERETO, INCLUDING COPYRIGHT. THE DOCUMENTS SHALL NOT BE USED ON OTHER PROJECTS, FOR ADDITIONS TO THIS PROJECT OR FOR COMPLETION OF THIS PROJECT BY OTHERS, EXCEPT BY AGREEMENT IN WRITING AND WITH APPROPRIATE COMPENSATION TO APEX.



PROJECT TITLE:

NEW BEDFORD HARBOR
NAVIGATIONAL
DREDGE - PHASE III,
PART A

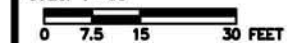
PREPARED FOR:

THE NEW BEDFORD
HARBOR DEVELOPMENT
COMMISSION
AND THE
TOWN OF FAIRHAVEN,
MASSACHUSETTS

DRAWING TITLE:

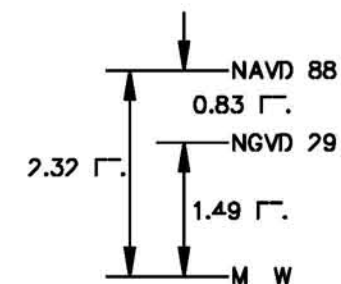
UNION WHARF
DREDGE AREAS
POST - DREDGE

Scale: 1"=30'



Date 9/5/08	Drawing No.
Proj. Mgr. JAB	
Design GCD	
Check CM	
Drawn GCD	P-4A
Job No. 6615	
Last Rev. 5/23/09	

GRAPHIC DEPICTION OF
DATUM SEPARATIONS FOR
NEW BEDFORD HARBOR



WARREN ALEXANDER

WA-2A DREDGE
AREA TARGET
DREDGE DEPTH =
-13'MLLW

818263
2692133

5-FOOT OFFSET
FROM STRUCTURES
NO SPUD NO
DREDGE

818250
2692115

818266
2692117

818253
2692115

818271
2692085

WA-2B DREDGE
AREA TARGET
DREDGE DEPTH =
-15'MLLW

818107
2692109

818105
2692093

818110
2692060

EBB
FLOOD

STEAMSHIP AUTHORITY

NOTES

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- HYDROGRAPHIC SURVEY WAS PERFORMED BY APEX COMPANIES LLC ON 7/24/09.
- HYDROGRAPHIC SURVEY DATUM IS REFERENCED TO MEAN LOWER LOW WATER (MLLW) ON THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SERVICE TIDAL BENCHMARK BM7584 J 1977 - SURVEY DISK SET FLUSH IN THE SURFACE OF A CONCRETE SIDEWALK ON THE SOUTH SIDE OF U.S. HIGHWAY 6 ON THE NORTH SIDE OF THE MOBIL SERVICE STATION, 4 FEET (1 M) WEST OF A FIRE HYDRANT AND 1 FOOT (0.3 M) SOUTH OF U.S. HIGHWAY 6. DATUM SEPARATIONS WERE COMPUTED BY COLER AND COLANTONIO, INC. JUNE 2008, AS MLLW - 1.49 FT = NGVD29 0.0 FT. TO OBTAIN VALUES IN NGVD29, SUBTRACT 1.49 FEET FROM THE INDICATED VALUE AT ANY POINT. HORIZONTAL CONTROL CAN BE OBTAINED FROM THE ENGINEER.
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184 HIGH STREET
SUITE 502
BOSTON MA 02110
(617) 728-0070

REVISIONS

NO.	DATE	DESCRIPTION
1.	9/05/08	PRELIM. DREDGE LAYOUT
2.	11/14/08	BID SET
3.	3/12/09	FOR CONSTRUCTION
4.	7/24/09	POST-DREDGE

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PROJECT TITLE:

NEW BEDFORD HARBOR
NAVIGATIONAL
DREDGE - PHASE III,
PART A

PREPARED FOR:

THE NEW BEDFORD
HARBOR DEVELOPMENT
COMMISSION
AND THE
TOWN OF FAIRHAVEN,
MASSACHUSETTS

DRAWING TITLE:

WARREN ALEXANDER
SOUTH
DREDGE AREA
POST - DREDGE

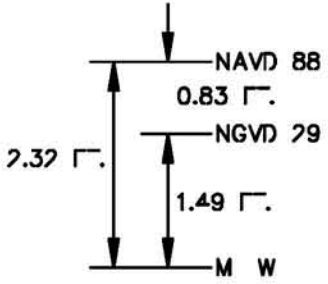
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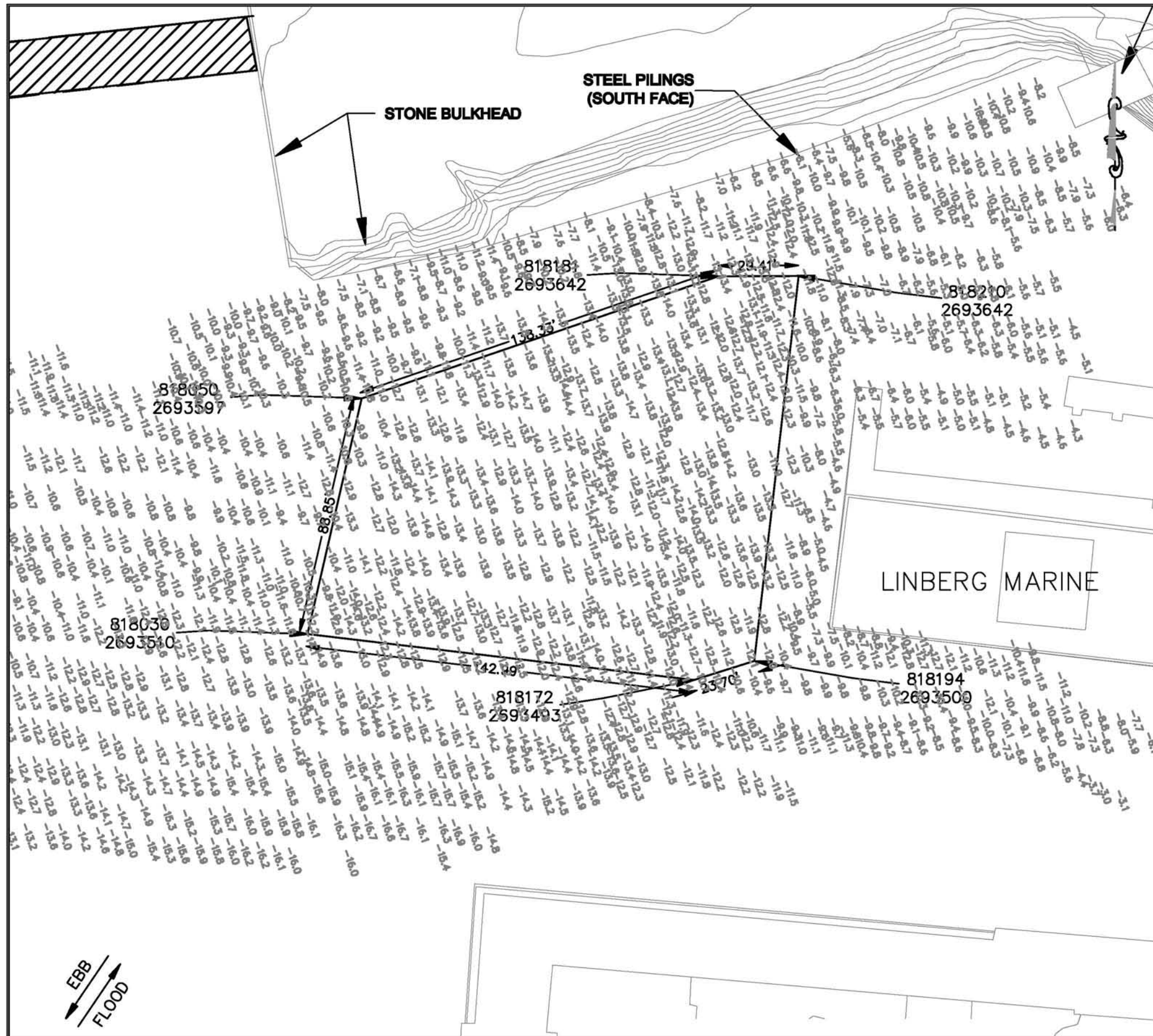


Date 9/5/08
Proj. Mgr. JAB
Design GCD
Check CM
Drawn GCD
Job No. 6615
Last Rev. 7/24/09

Drawing No.
P-4B

GRAPHIC DEPICTION OF
DATUM SEPARATIONS FOR
NEW BEDFORD HARBOR





NOTES

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184 HIGH STREET
SUITE 302
BOSTON MA 02110
(617) 728-0070

REVISIONS

NO.	DATE	DESCRIPTION
1.	9/05/06	PRELIM. DREDGE LAYOUT
2.	11/14/06	BID SET
3.	3/12/09	FOR CONSTRUCTION
4.	6/16/09	POST-DREDGE

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PROJECT TITLE:

NEW BEDFORD HARBOR
NAVIGATIONAL
DREDGE - PHASE III,
PART A

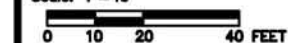
PREPARED FOR:

THE NEW BEDFORD
HARBOR DEVELOPMENT
COMMISSION
AND THE
TOWN OF FAIRHAVEN,
MASSACHUSETTS

DRAWING TITLE:

LINBERG MARINE
DREDGE AREA
POST - DREDGE

Scale: 1"=40'

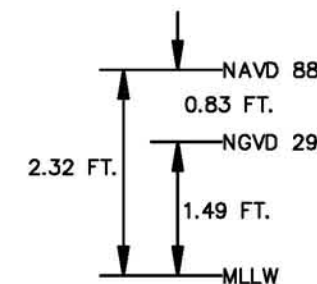


Date 9/5/08
Proj. Mgr. JAB
Design GCD
Check CM
Drawn GCD
Job No. 6615
Last Rev. 6/16/09

Drawing No.

P-5

GRAPHIC DEPICTION OF
DATUM SEPARATIONS FOR
NEW BEDFORD HARBOR





184 HIGH STREET
SUITE 502
BOSTON MA 02110
(617) 728-0070

REVISIONS

NO.	DATE	DESCRIPTION
1.	9/05/08	PRELIM. DREDGE LAYOUT
2.	11/14/08	BID SET
3.	3/12/09	FOR CONSTRUCTION
4.	6/15/09	POST-DREDGE

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PROJECT TITLE:
NEW BEDFORD HARBOR
NAVIGATIONAL
DREDGE - PHASE III,
PART A

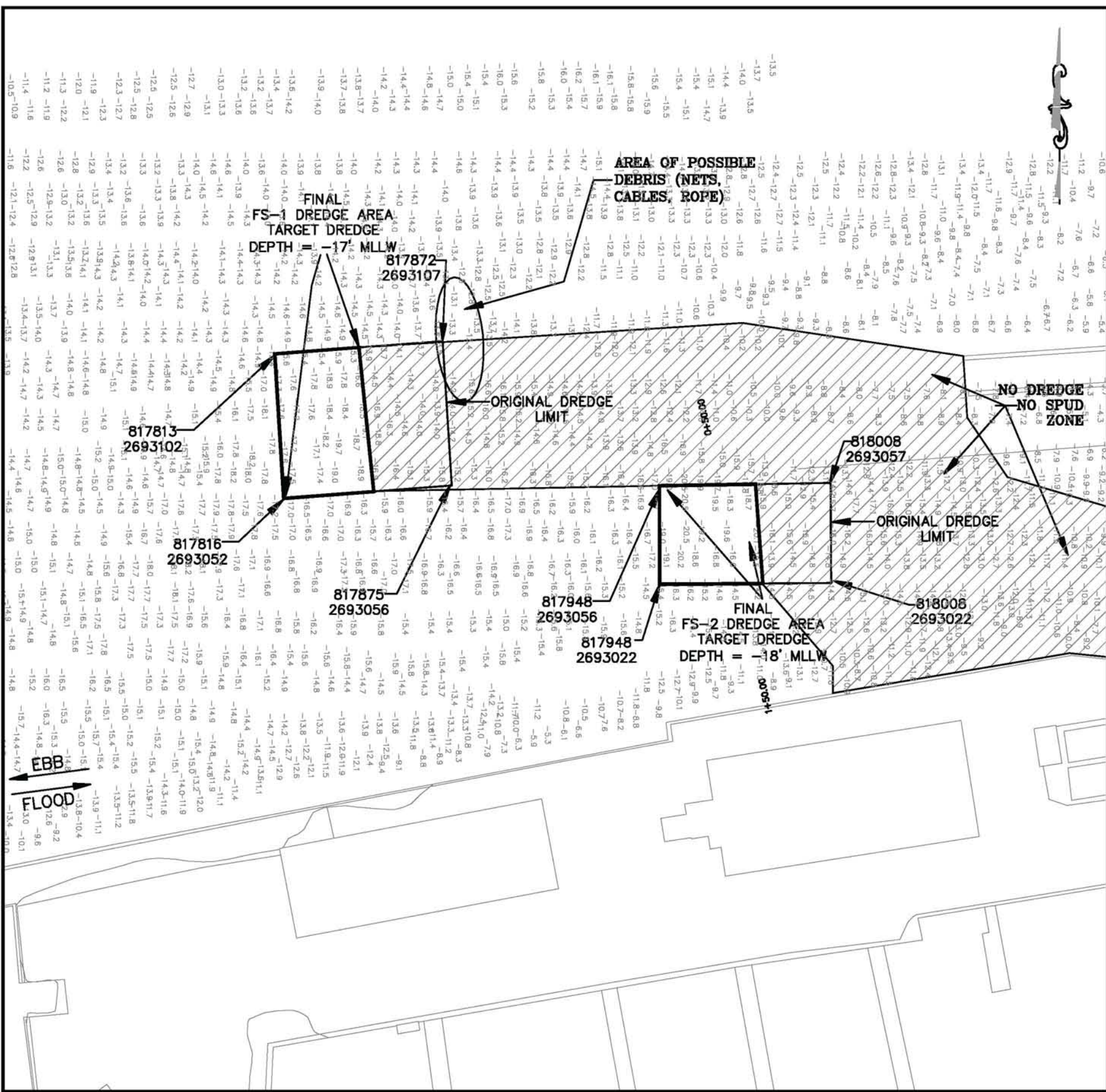
PREPARED FOR:
THE NEW BEDFORD
HARBOR DEVELOPMENT
COMMISSION
AND THE
TOWN OF FAIRHAVEN,
MASSACHUSETTS

DRAWING TITLE:
FAIRHAVEN SHIPYARD
DREDGE AREAS
POST - DREDGE

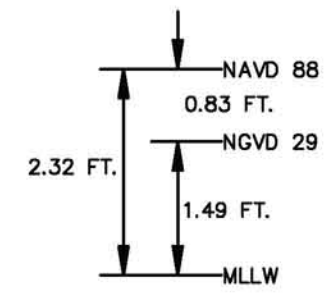
Scale: 1"=40'	Drawing No. P-6
Date 9/5/08	
Proj. Mgr. JAB	
Design GCD	
Check CM	
Drawn GCD	
Job No. 6615	
Last Rev. 6/15/09	

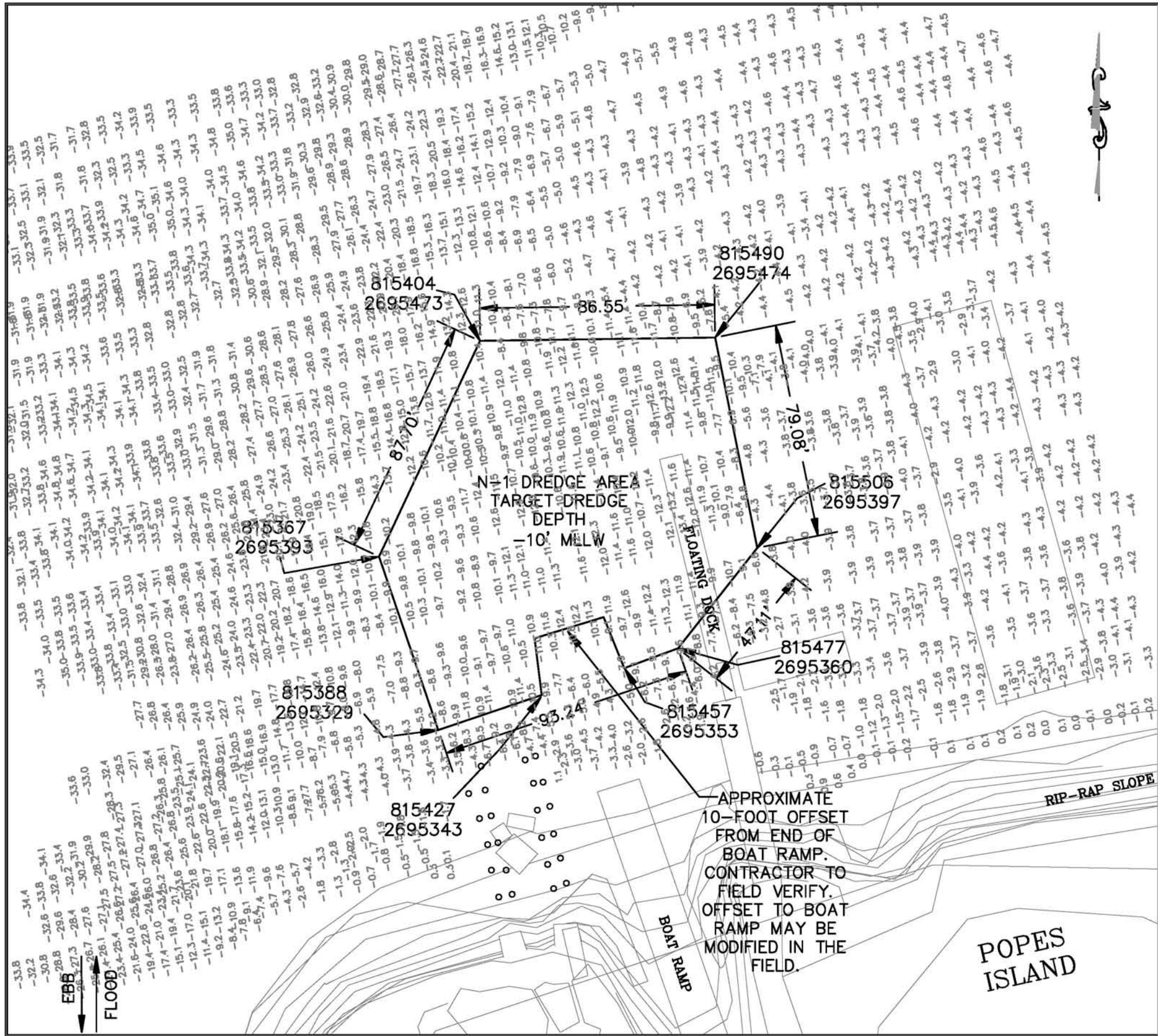
NOTES

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GRAPHIC DEPICTION OF
DATUM SEPARATIONS FOR
NEW BEDFORD HARBOR





NOTES

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184 HIGH STREET
SUITE 302
BOSTON MA 02110
(617) 728-0070

REVISIONS

NO.	DATE	DESCRIPTION
1.	9/05/08	PRELIM. DREDGE LAYOUT
2.	11/14/08	BID SET
3.	3/12/09	FOR CONSTRUCTION
4.	6/16/09	POST-DREDGE

THESE DRAWINGS PREPARED BY APEX FOR THIS PROJECT ARE INSTRUMENTS OF APEX'S SERVICE FOR USE SOLELY WITH RESPECT TO THIS PROJECT, AND APEX SHALL BE DEEMED THE AUTHOR OF THE DRAWING AND SHALL RETAIN ALL COMMON LAW, STATUTORY AND OTHER RESERVED RIGHTS WITH RESPECT THERETO, INCLUDING COPYRIGHT. THE DOCUMENTS SHALL NOT BE USED ON OTHER PROJECTS, FOR ADDITIONS TO THIS PROJECT OR FOR COMPLETION OF THIS PROJECT BY OTHERS, EXCEPT BY AGREEMENT IN WRITING AND WITH APPROPRIATE COMPENSATION TO APEX.



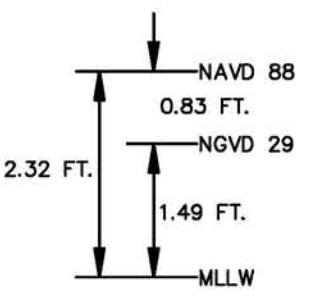
PROJECT TITLE:
**NEW BEDFORD HARBOR
NAVIGATIONAL
DREDGE - PHASE III,
PART A**

PREPARED FOR:
**THE NEW BEDFORD
HARBOR DEVELOPMENT
COMMISSION
AND THE
TOWN OF FAIRHAVEN,
MASSACHUSETTS**

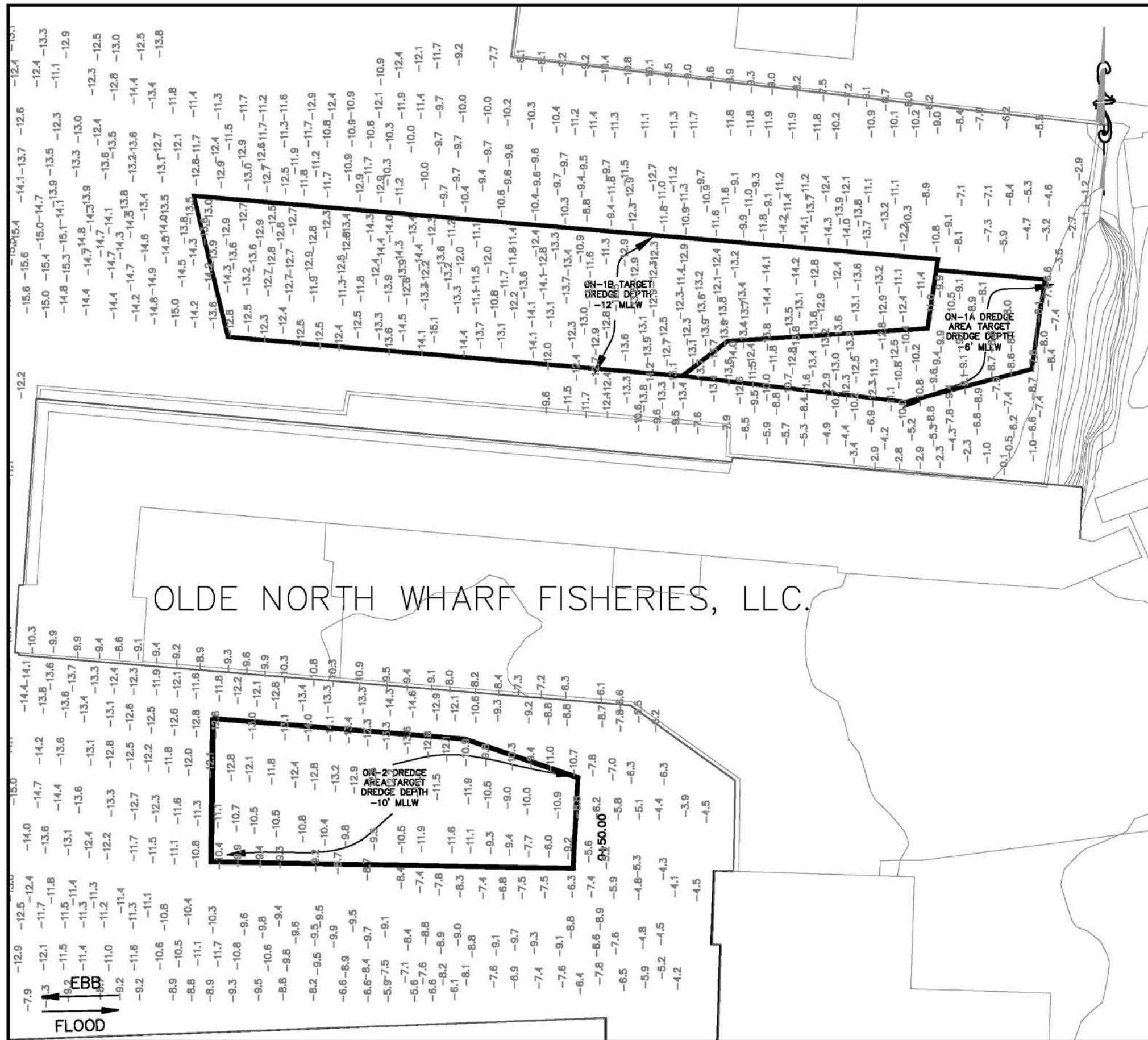
DRAWING TITLE:
**NIEMIEC MARINE
DREDGE AREA
POST - DREDGE**

Scale: 1"=40'	
0 10 20 40 FEET	
Date 9/5/08	Drawing No.
Proj. Mgr. JAB	
Design GCD	
Check CM	
Drawn GCD	
Job No. 6615	
Last Rev. 6/16/09	

GRAPHIC DEPICTION OF
DATUM SEPARATIONS FOR
NEW BEDFORD HARBOR



POPE'S
ISLAND



NOTES

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184 HIGH STREET
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(617) 728-0070

REVISIONS

NO.	DATE	DESCRIPTION
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2.	11/14/08	BID SET
3.	3/12/09	FOR CONSTRUCTION
4.	7/10/09	POST-DREDGE

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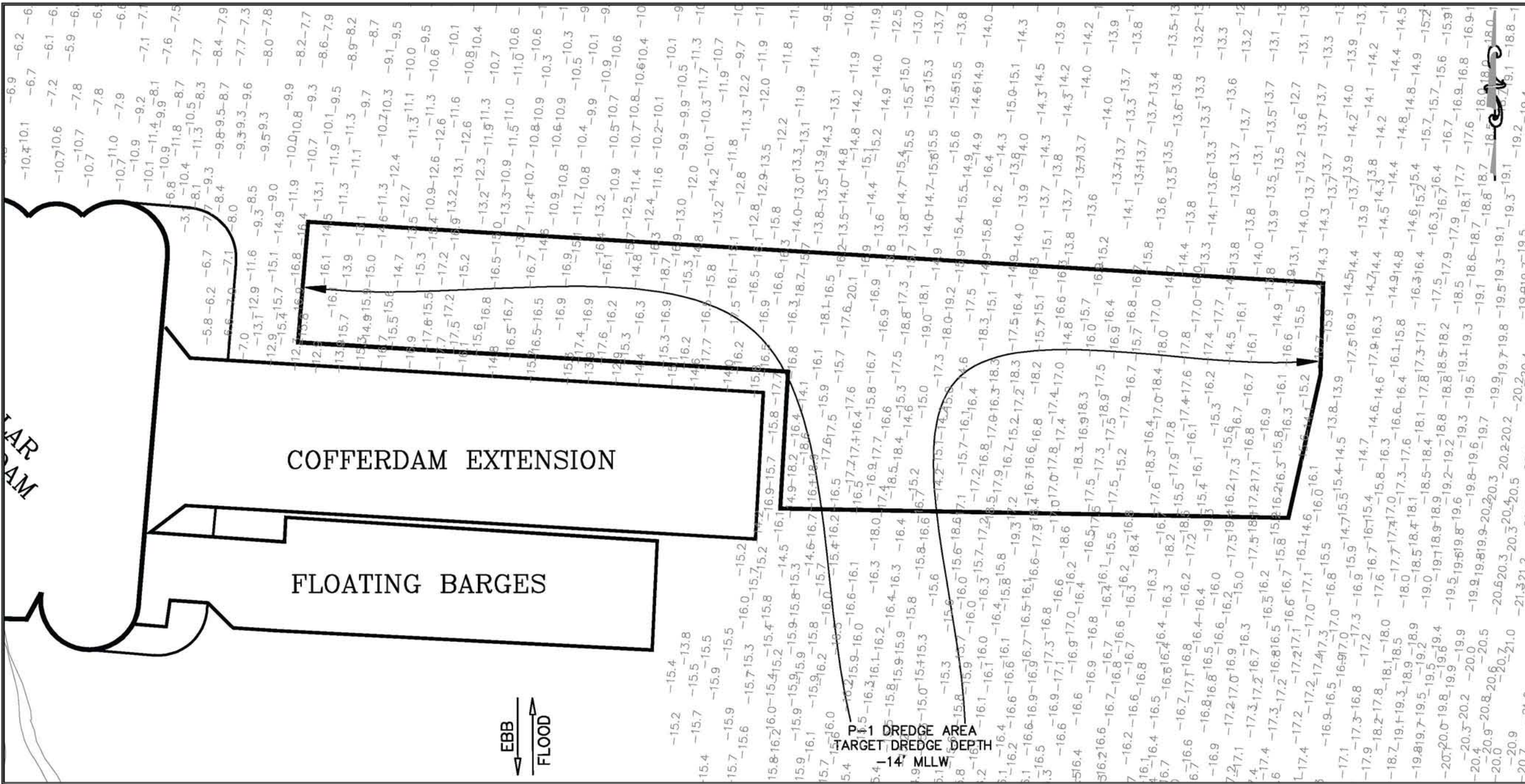


PROJECT TITLE:
NEW BEDFORD HARBOR
NAVIGATIONAL
DREDGE - PHASE III,
PART A

PREPARED FOR:
THE NEW BEDFORD
HARBOR DEVELOPMENT
COMMISSION
AND THE
TOWN OF FAIRHAVEN,
MASSACHUSETTS

DRAWING TITLE:
OLD NORTH WHARF
FISHERIES
DREDGE AREA
POST - DREDGE

Scale: 1"=30'	Drawing No. P-8
0 7.5 15 30 FEET	
Date 9/5/08	
Proj. Mgr. JAB	
Design GCD	
Check CM	
Drawn GCD	
Job No. 6615	
Last Rev. 7/10/09	



NOTES

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- THE SOUNDINGS SHOWN HEREON ARE A REDUCED SELECTION OF DATA COLLECTED AT THE TIME OF THE SURVEY. THE DATA REDUCTION WAS PERFORMED USING THE SORT UTILITY WITHIN THE HYPACK SOFTWARE PACKAGE. THIS SORTING UTILITY BIASES THE SOUNDING SELECTION TOWARDS THE MINIMUM (SHOALEST) SOUNDING IN THE SAMPLING AREA.

GRAPHIC DEPICTION OF DATUM SEPARATIONS FOR NEW BEDFORD HARBOR

NAVD 88
0.83 FT.
NGVD 29
1.49 FT.
MLLW
2.32 FT.

184 HIGH STREET
SUITE 502
BOSTON MA 02110
(617) 728-0070

REVISIONS

NO.	DATE	DESCRIPTION
1.	9/05/08	PRELIM. DREDGE LAYOUT
2.	11/14/08	BID SET
3.	3/12/09	FOR CONSTRUCTION
4.	10/6/09	POST-DREDGE

THESE DRAWINGS PREPARED BY APEX FOR THIS PROJECT ARE INSTRUMENTS OF APEX'S SERVICE FOR USE SOLELY WITH RESPECT TO THIS PROJECT, AND APEX SHALL BE DEEMED THE AUTHOR OF THE DRAWING AND SHALL RETAIN ALL COMMON LAW, STATUTORY AND OTHER RESERVED RIGHTS WITH RESPECT THERETO, INCLUDING COPYRIGHT. THE DOCUMENTS SHALL NOT BE USED ON OTHER PROJECTS, FOR ADDITIONS TO THIS PROJECT OR FOR COMPLETION OF THIS PROJECT BY OTHERS, EXCEPT BY AGREEMENT IN WRITING AND WITH APPROPRIATE COMPENSATION TO APEX.

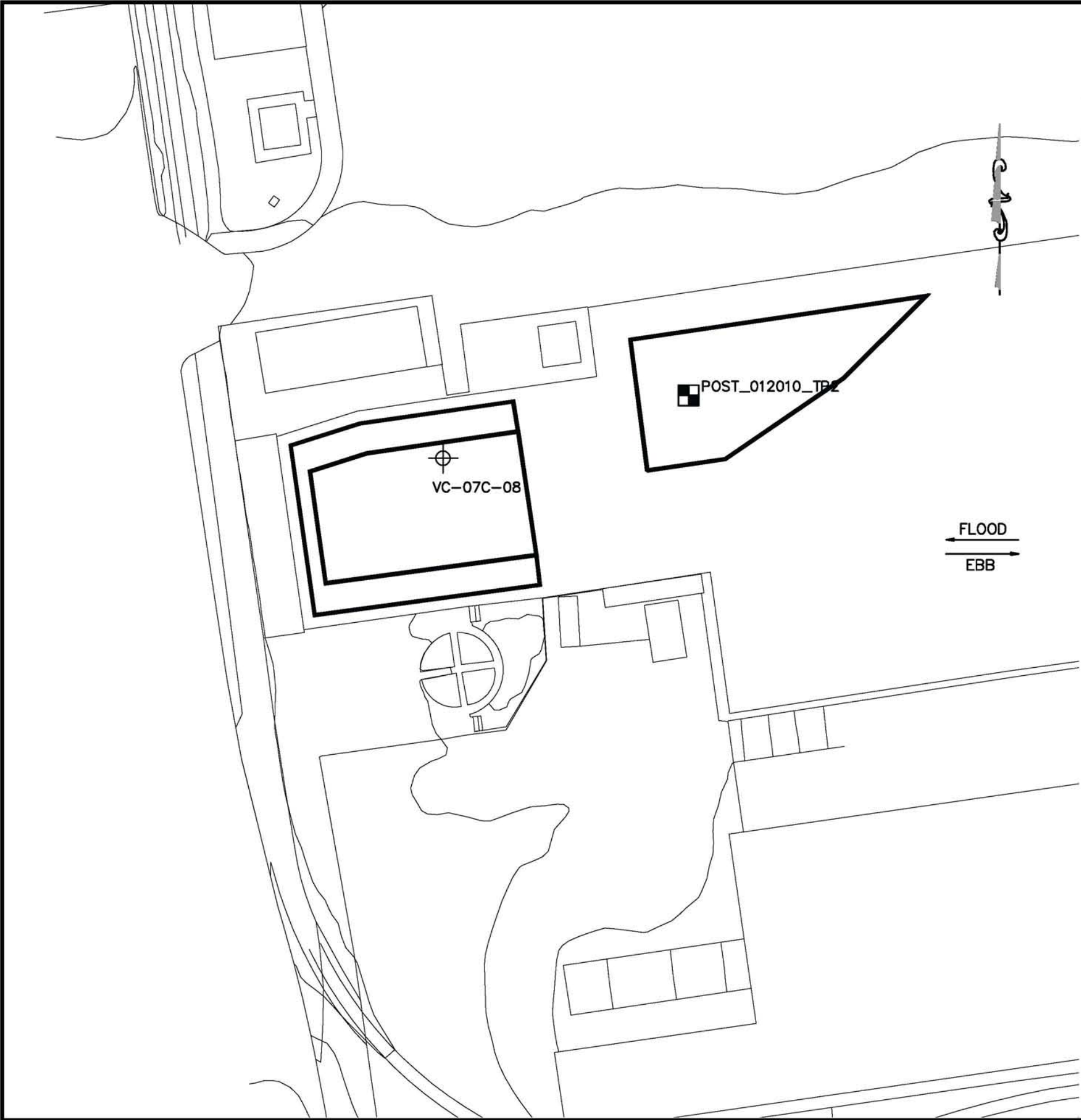
PROJECT TITLE:
**NEW BEDFORD HARBOR
NAVIGATIONAL
DREDGE - PHASE III,
PART A**

PREPARED FOR:
**THE NEW BEDFORD
HARBOR DEVELOPMENT
COMMISSION
AND THE
TOWN OF FAIRHAVEN,
MASSACHUSETTS**

DRAWING TITLE:
**PACKER FUEL
DREDGE AREA
POST - DREDGE**

Scale: 1"=40'

Date 9/5/08	Drawing No. P-9
Proj. Mgr. JAB	
Design GCD	
Check CM	
Drawn GCD	
Job No. 6615	
Last Rev. 10/8/09	



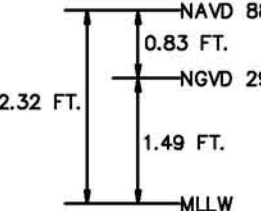
- NOTES**
- COORDINATES SHOWN ARE IN THE STATE PLANE COORDINATE SYSTEM, MASSACHUSETTS MAPLAND ZONE 2201, REFERENCED TO THE 1983 NORTH AMERICAN DATUM.
 - BASE PLAN FOR THIS PROJECT OBTAINED FROM U.S. ARMY CORPS OF ENGINEERS. EXISTING CONDITIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
 - HORIZONTAL AND VERTICAL CONTROL HAVE BEEN PROVIDED BY THE OWNER AND HAVE NOT BEEN INDEPENDENTLY VERIFIED. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF CONTROL DATA.

VC-07-08
PRE DREDGE SAMPLE LOCATION

POST_012010_G1
POST DREDGE SAMPLE LOCATION

FLOOD
EBB

GRAPHIC DEPICTION OF
DATUM SEPARATIONS FOR
NEW BEDFORD HARBOR



184 HIGH STREET
SUITE 802
BOSTON, MA 02110
(617) 728-0070

REVISIONS		
NO.	DATE	DESCRIPTION
1.	08/08	PRELIM DREDGE LAYOUT
2.	10/08	REV SET
3.	01/09	REV SET
4.	08/09	POST-DREDGE SAMPLES

THESE DRAWINGS PREPARED BY APEX FOR THIS PROJECT ARE INSTRUMENTS OF APEX'S SERVICE FOR USE SOLELY WITH RESPECT TO THIS PROJECT, AND APEX SHALL BE DEEMED THE AUTHOR OF THE DRAWING AND SHALL RETAIN ALL COMMON LAW, STATUTORY AND OTHER RESERVED RIGHTS WITH RESPECT THERE TO, INCLUDING COPYRIGHT. THE DOCUMENTS SHALL NOT BE USED ON OTHER PROJECTS, FOR ADDITIONS TO THIS PROJECT OR FOR COMPLETION OF THIS PROJECT BY OTHERS, EXCEPT BY AGREEMENT IN WRITING AND WITH APPROPRIATE COMPENSATION TO APEX.



PROJECT TITLE:
**NEW BEDFORD HARBOR
NAVIGATIONAL
DREDGE - PHASE III,
PART A & B**

PREPARED FOR:
**THE NEW BEDFORD
HARBOR DEVELOPMENT
COMMISSION
AND THE
TOWN OF FAIRHAVEN,
MASSACHUSETTS**

DRAWING TITLE:
**TONNESSON PARK
DREDGE AREAS-
PRE AND POST DREDGE
SAMPLING LOCATIONS
NOT
FOR CONSTRUCTION**



Date 9/5/08	Drawing No. V-1
Proj. Mgr. JAB	
Design GCD	
Check CM	
Drawn GCD	
Job No. 6615	
Last Rev. 1/22/10	



FLOOD
EBB

NOTES

- COORDINATES SHOWN ARE IN THE STATE PLANE COORDINATE SYSTEM, MASSACHUSETTS MAINLAND ZONE 2001, REFERENCED TO THE 1985 NORTH AMERICAN DATUM.
- BASE PLAN FOR THIS FIGURE OBTAINED FROM U.S. ARMY CORPS OF ENGINEERS. EXISTING CONDITIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
- HORIZONTAL AND VERTICAL CONTROL HAVE BEEN PROVIDED BY THE OWNER AND HAVE NOT BEEN INDEPENDENTLY VERIFIED. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF CONTROL DATA.

VC-07-08

PRE DREDGE SAMPLE LOCATION

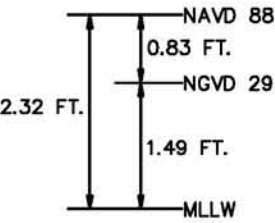
POST_012010_G1

POST DREDGE SAMPLE LOCATION

VC-16-08

POST_012010_TP2

GRAPHIC DEPICTION OF
DATUM SEPARATIONS FOR
NEW BEDFORD HARBOR



184 HIGH STREET
SUITE 802
BOSTON, MA 02110
(617) 728-0070

REVISIONS

NO.	DATE	DESCRIPTION
1.	08/08/08	PRELIM DREDGE LAYOUT
2.	11/14/08	REVISED
3.	11/16/08	REVISED
4.	12/21/10	POST-DREDGE SAMPLES

THESE DRAWINGS PREPARED BY APEX FOR THIS PROJECT ARE INSTRUMENTS OF APEX'S SERVICE FOR USE SOLELY WITH RESPECT TO THIS PROJECT. APEX SHALL BE DEEMED THE AUTHOR OF THE DRAWING AND SHALL RETAIN ALL COMMON LAW, STATUTORY AND OTHER RESERVED RIGHTS WITH RESPECT THERETO, INCLUDING COPYRIGHT. THE DOCUMENTS SHALL NOT BE USED ON OTHER PROJECTS, FOR ADDITIONS TO THIS PROJECT OR FOR COMPLETION OF THIS PROJECT BY OTHERS, EXCEPT BY AGREEMENT IN WRITING AND WITH APPROPRIATE COMPENSATION TO APEX.



PROJECT TITLE:

NEW BEDFORD HARBOR
NAVIGATIONAL
DREDGE - PHASE III,
PART A & B

PREPARED FOR:

THE NEW BEDFORD
HARBOR DEVELOPMENT
COMMISSION
AND THE
TOWN OF FAIRHAVEN,
MASSACHUSETTS

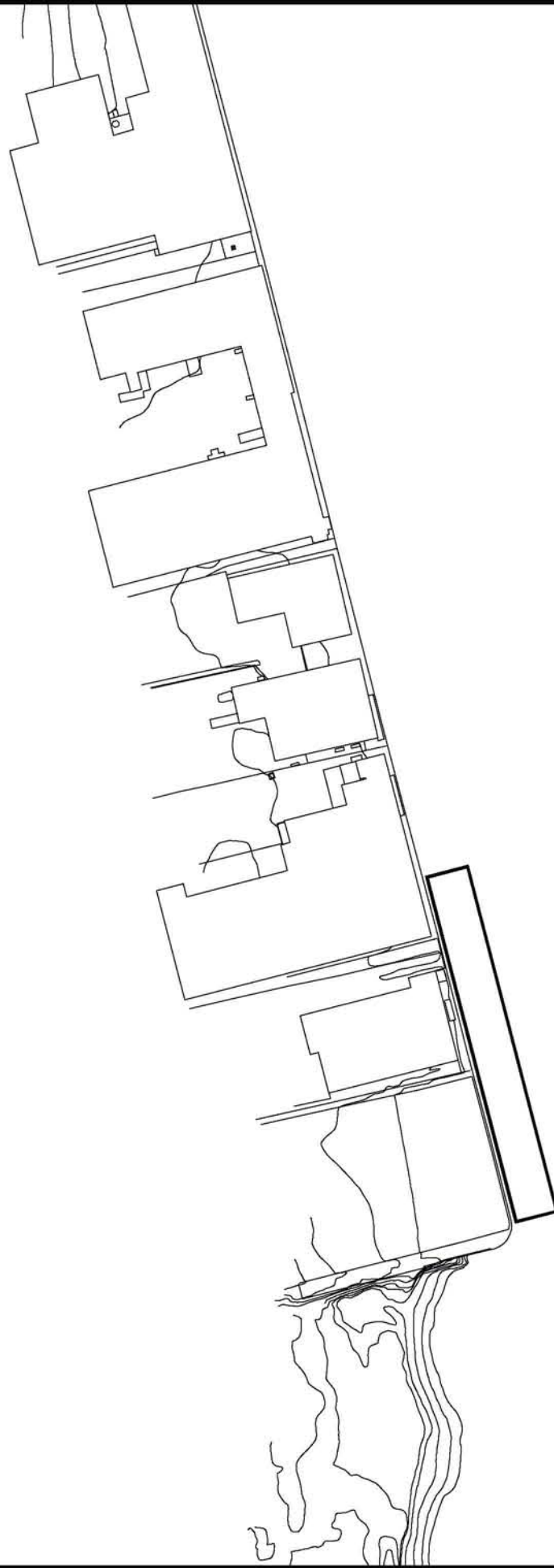
DRAWING TITLE:

GIFFORD STREET BOAT
RAMP DREDGE AREA-
PRE AND POST DREDGE
SAMPLING LOCATIONS
NOT
FOR CONSTRUCTION



Date: 9/5/08	Drawing No.
Proj. Mgr.: JAB	
Design: GCD	
Check: CM	
Drawn: GCD	
Job. No.: 6615	
Last Rev.: 1/22/10	

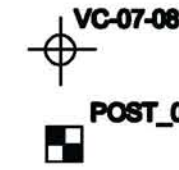
V-2



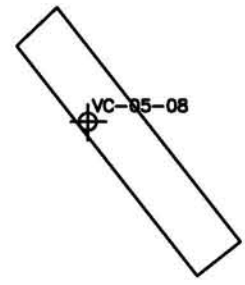
NOTES

1. COORDINATES SHOWN ARE IN THE STATE PLANE COORDINATE SYSTEM, MASSACHUSETTS MAPLAND ZONE 2001, REFERENCED TO THE 1988 NORTH AMERICAN DATUM.
2. BASE PLAN FOR THIS PHASE OBTAINED FROM U.S. ARMY CORPS OF ENGINEERS. EXISTING CONDITIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
3. HORIZONTAL AND VERTICAL CONTROL HAVE BEEN PROVIDED BY THE OWNER AND HAVE NOT BEEN INDEPENDENTLY VERIFIED. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF CONTROL DATA.

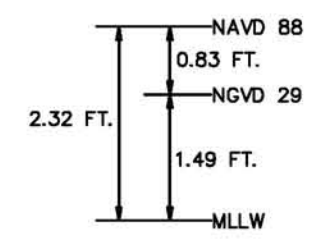
FLOOD
EBB



PRE DREDGE SAMPLE LOCATION
POST DREDGE SAMPLE LOCATION



GRAPHIC DEPICTION OF
DATUM SEPARATIONS FOR
NEW BEDFORD HARBOR



184 HIGH STREET
SUITE 802
BOSTON, MA 02110
(617) 728-0070

REVISIONS		
NO.	DATE	DESCRIPTION
1.	08/08	PRELIM DREDGE LAYOUT
2.	11/10/08	RED SET
3.	1/10/09	RE-SET
4.	1/22/10	POST-DREDGE SAMPLES

THESE DRAWINGS PREPARED BY APEX FOR THIS PROJECT ARE INSTRUMENTS OF APEX'S SERVICE FOR USE SOLELY WITH RESPECT TO THIS PROJECT, AND APEX SHALL BE DEEMED THE AUTHOR OF THE DRAWING AND SHALL RETAIN ALL COMMON LAW, STATUTORY AND OTHER RESERVED RIGHTS WITH RESPECT THERETO, INCLUDING COPYRIGHT. THE DOCUMENTS SHALL NOT BE USED ON OTHER PROJECTS, FOR ADDITIONS TO THIS PROJECT OR FOR COMPLETION OF THIS PROJECT BY OTHERS, EXCEPT BY AGREEMENT IN WRITING AND WITH APPROPRIATE COMPENSATION TO APEX.



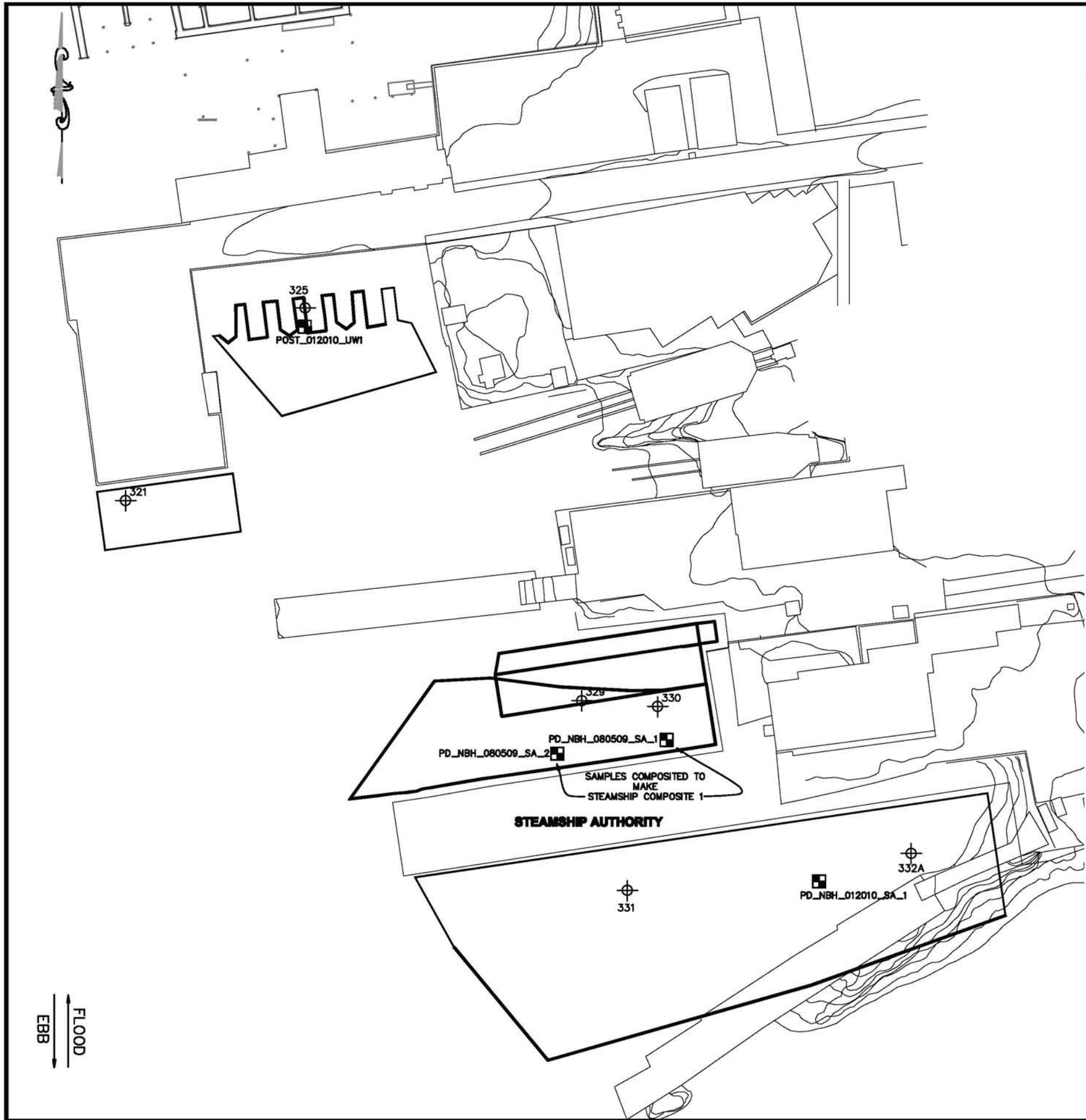
PROJECT TITLE:
**NEW BEDFORD HARBOR
NAVIGATIONAL
DREDGE - PHASE III,
PART A & B**

PREPARED FOR:
**THE NEW BEDFORD
HARBOR DEVELOPMENT
COMMISSION
AND THE
TOWN OF FAIRHAVEN,
MASSACHUSETTS**

DRAWING TITLE:
**SOUTH TERMINAL
DREDGE AREAS- PRE
AND POST DREDGE
SAMPLING LOCATIONS
NOT
FOR CONSTRUCTION**



Date 8/5/08	Drawing No. V-3
Proj. Mgr. JAB	
Design GCD	
Check CM	
Drawn GCD	
Job. No. 6615	
Last Rev. 1/22/10	



- NOTES**
- COORDINATES SHOWN ARE IN THE STATE PLANE COORDINATE SYSTEM, MASSACHUSETTS MAINLAND ZONE 2011, REFERENCED TO THE 1988 NORTH AMERICAN DATUM.
 - BASE PLAN FOR THIS PHASE OBTAINED FROM U.S. ARMY CORPS OF ENGINEERS. EXISTING CONDITIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
 - HORIZONTAL AND VERTICAL CONTROL HAVE BEEN PROVIDED BY THE OWNER AND HAVE NOT BEEN INDEPENDENTLY VERIFIED. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF CONTROL DATA.



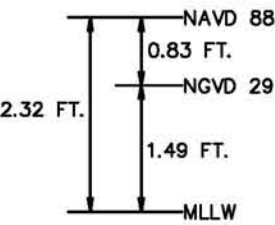
VC-07-08



PRE DREDGE SAMPLE LOCATION

POST DREDGE SAMPLE LOCATION

GRAPHIC DEPICTION OF DATUM SEPARATIONS FOR NEW BEDFORD HARBOR



EBB
FLOOD



184 HIGH STREET
SUITE 602
BOSTON, MA 02110
(617) 738-0070

REVISIONS		
NO.	DATE	DESCRIPTION
1.	08/20/08	PRELIM DREDGE LAYOUT
2.	11/14/08	REV SET
3.	1/16/09	REV SET
4.	1/22/10	POST-DREDGE SAMPLES

THESE DRAWINGS PREPARED BY APEX FOR THIS PROJECT ARE INSTRUMENTS OF APEX'S SERVICE FOR USE SOLELY WITH RESPECT TO THIS PROJECT, AND APEX SHALL BE DEEMED THE AUTHOR OF THE DRAWING AND SHALL RETAIN ALL COMMON LAW, STATUTORY AND OTHER RESERVED RIGHTS WITH RESPECT THERETO, INCLUDING COPYRIGHT. THE DOCUMENTS SHALL NOT BE USED ON OTHER PROJECTS, FOR ADDITIONS TO THIS PROJECT OR FOR COMPLETION OF THIS PROJECT BY OTHERS, EXCEPT BY AGREEMENT IN WRITING AND WITH APPROPRIATE COMPENSATION TO APEX.



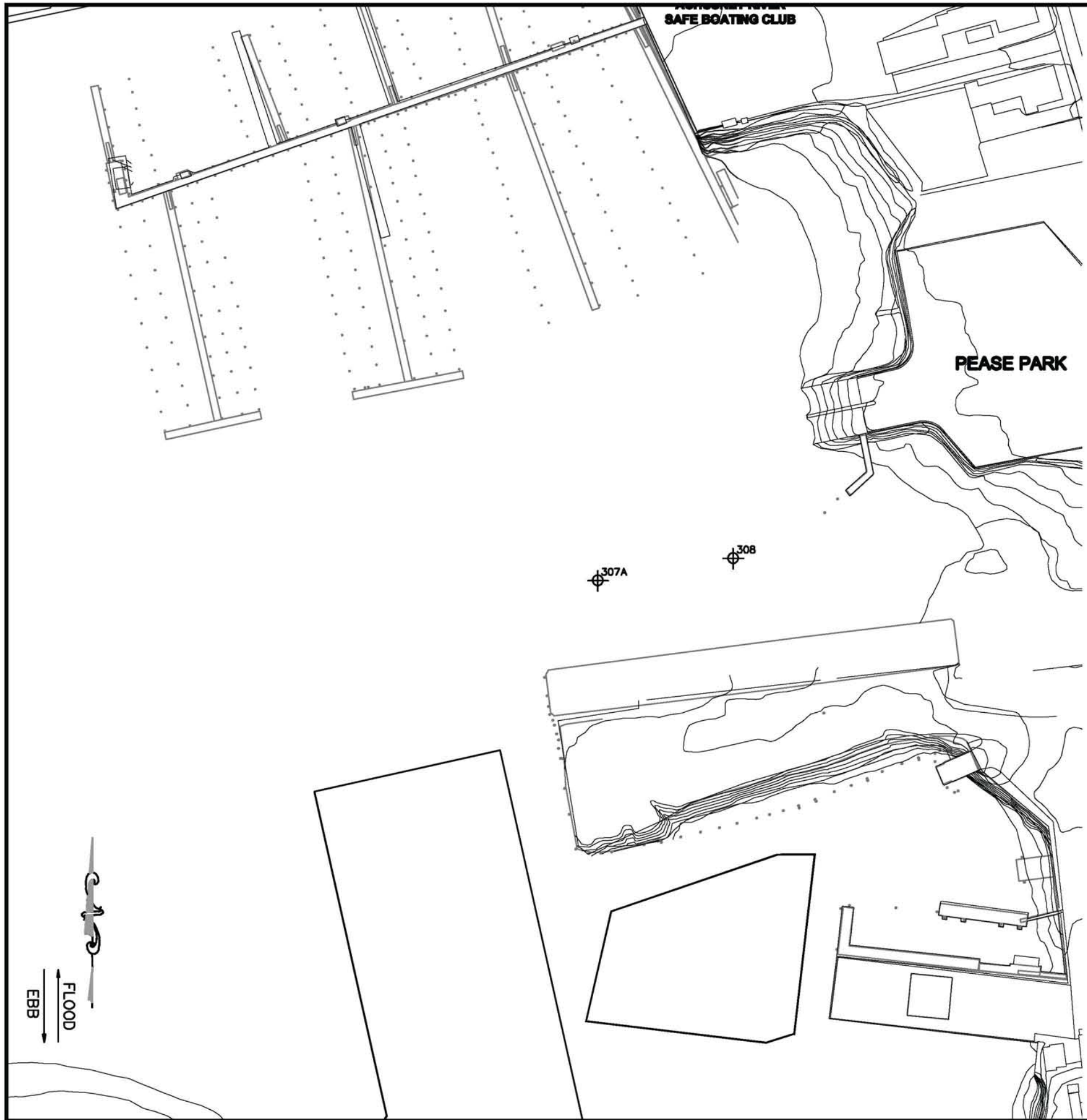
PROJECT TITLE:
**NEW BEDFORD HARBOR
NAVIGATIONAL
DREDGE - PHASE III,
PART A & B**

PREPARED FOR:
**THE NEW BEDFORD
HARBOR DEVELOPMENT
COMMISSION
AND THE
TOWN OF FAIRHAVEN,
MASSACHUSETTS**

DRAWING TITLE:
**WARREN ALEXANDER
SOUTH AND UNION
WHARF DREDGE AREAS-
VIBRACORE AND BORING
LOCATION SHEET
NOT
FOR CONSTRUCTION**

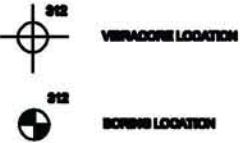


Date 9/5/08	Drawing No.
Proj. Mgr. JAB	
Design GCD	
Check CM	
Drawn GCD	
Job No. 6515	
Last Rev. 1/22/10	

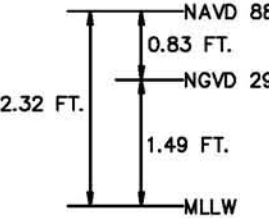


NOTES

1. COORDINATES SHOWN ARE IN THE STATE PLANE COORDINATE SYSTEM, MASSACHUSETTS MAINLAND ZONE 2001, REFERENCED TO THE 1989 NORTH AMERICAN DATUM.
2. HYDROGRAPHIC SURVEY IS A COMPILED OF SURVEYS PERFORMED BETWEEN 8-11-08 AND 11-8-08.
3. HYDROGRAPHIC SURVEY DATUM IS REFERENCED TO MEAN LOWER LOW WATER (MLLW) ON THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SERVICE TIDAL BENCHMARK BMTW04 J 1977 - SURVEY MARK SET FLUSH IN THE SURFACE OF A CONCRETE SIDEWALK ON THE SOUTH SIDE OF U.S. HIGHWAY 9 ON THE NORTH SIDE OF THE LOCAL SERVICE STATION, 4 FEET (1 M) WEST OF A FIRE HYDRANT AND 1 FOOT (0.3 M) SOUTH OF U.S. HIGHWAY 9. DATUM SEPARATIONS WERE COMPUTED BY COLER AND COLANTONIO, INC. FEBRUARY 2008 AS MLLW - 1.82 FT = NGVD88 8.8 FT. TO OBTAIN VALUES IN NGVD88, SUBTRACT 1.82 FEET FROM THE INDICATED VALUE AT ANY POINT. HORIZONTAL CONTROL CAN BE OBTAINED FROM THE ENGINEER.
4. BASE PLAN FOR THIS FIGURE OBTAINED FROM U.S. ARMY CORPS OF ENGINEERS. EXISTING CONDITIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
5. HORIZONTAL AND VERTICAL CONTROL HAVE BEEN PROVIDED BY THE OWNER AND HAVE NOT BEEN INDEPENDENTLY VERIFIED. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF CONTROL DATA.
6. THE INFORMATION DEPICTED ON THIS DRAWING REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED ABOVE AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS AT THE TIME OF THE SURVEYS AND AT THE SOUNDING POINTS NOTED ON THE DRAWING.



GRAPHIC DEPICTION OF DATUM SEPARATIONS FOR NEW BEDFORD HARBOR



115 BROAD STREET
SUITE 200
BOSTON MA 02110
(617) 728-0070

REVISIONS		
NO.	DATE	DESCRIPTION
1.	08/08	PRELIM DREDGE LAYOUT
2.	10/10/08	NO SET
3.	11/08	NO SET

THESE DRAWINGS PREPARED BY APEX FOR THIS PROJECT ARE INSTRUMENTS OF APEX'S SERVICE FOR USE SOLELY WITH RESPECT TO THIS PROJECT, AND APEX SHALL BE DEEMED THE AUTHOR OF THE DRAWING AND SHALL RETAIN ALL COMMON LAW, STATUTORY AND OTHER RESERVED RIGHTS WITH RESPECT THERETO, INCLUDING COPYRIGHT. THE DOCUMENTS SHALL NOT BE USED ON OTHER PROJECTS, FOR ADDITIONS TO THIS PROJECT OR FOR COMPLETION OF THIS PROJECT BY OTHERS, EXCEPT BY AGREEMENT IN WRITING AND WITH APPROPRIATE COMPENSATION TO APEX.



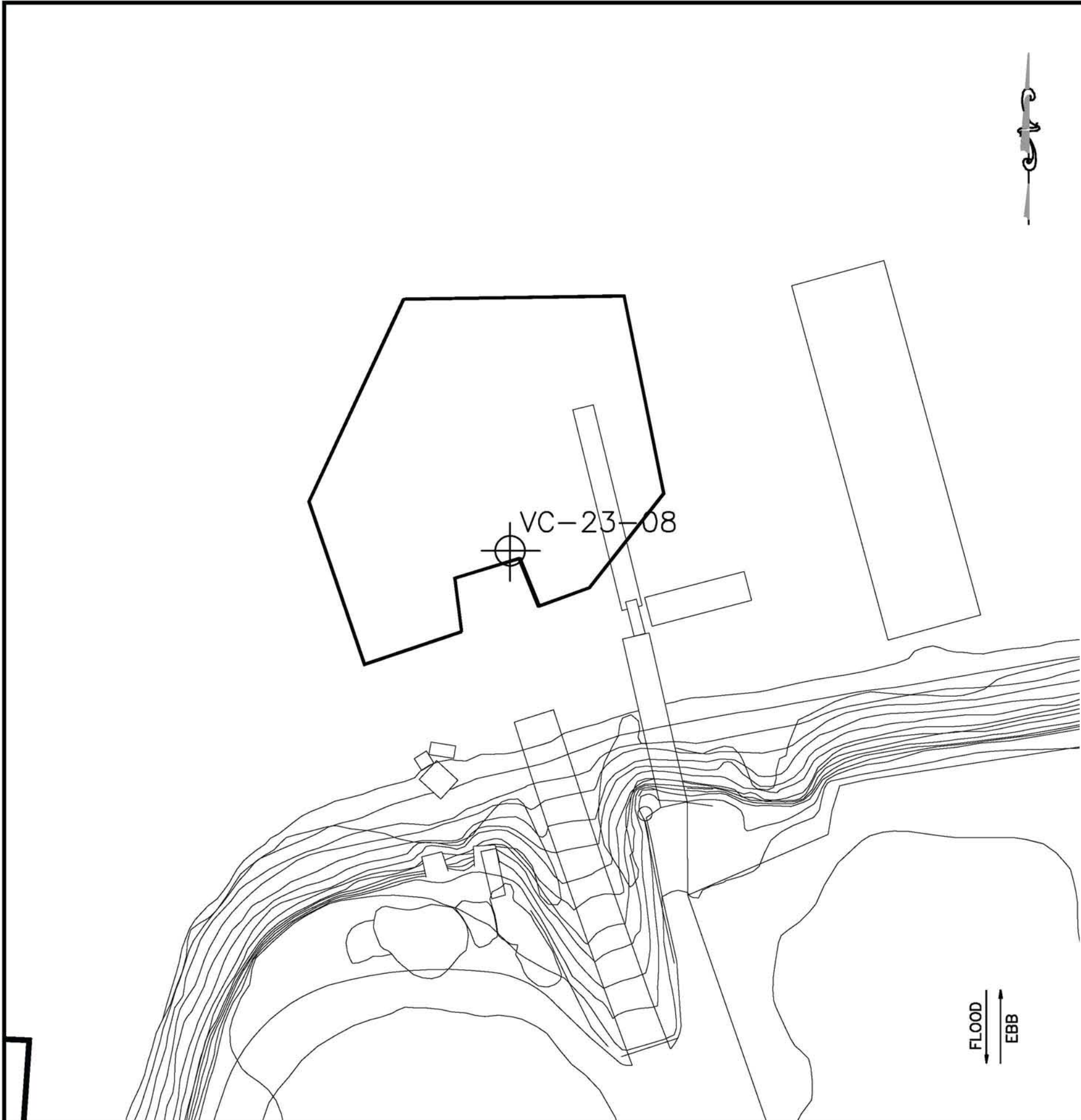
PROJECT TITLE:
**NEW BEDFORD HARBOR
NAVIGATIONAL
DREDGE - PHASE III,
PART A & B**

PREPARED FOR:
**THE NEW BEDFORD
HARBOR DEVELOPMENT
COMMISSION
AND THE
TOWN OF FAIRHAVEN,
MASSACHUSETTS**

DRAWING TITLE:
**LINBERG DREDGE
AREA-
VIBRACORE AND BORING
LOCATION SHEET
NOT
FOR CONSTRUCTION**



Date 9/5/08	Drawing No. V-5
Proj. Mgr. JAB	
Design GCD	
Check CM	
Drawn GCD	
Job. No. 6615	
Last Rev. 10/30/08	

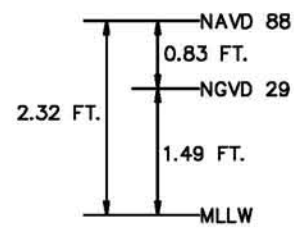


NOTES

- 1. COORDINATES SHOWN ARE IN THE STATE PLANE COORDINATE SYSTEM, MASSACHUSETTS MARLAND ZONE 2001, REFERENCED TO THE 1988 NORTH AMERICAN DATUM.
- 2. HYDROGRAPHIC SURVEY IS A COMPILED OF SURVEYS PERFORMED BETWEEN 9-11-08 AND 11-6-08.
- 3. HYDROGRAPHIC SURVEY DATUM IS REFERENCED TO MEAN LOWER LOW WATER (MLLW) ON THE NATIONAL OCEANOGRAPHIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SERVICE TIDAL BENCHMARK BM2684 J 1977 - SURVEY DISK SET FLUSH IN THE SURFACE OF A CONCRETE SIDEWALK ON THE SOUTH SIDE OF U.S. HIGHWAY 6 ON THE NORTH SIDE OF THE MOBIL SERVICE STATION, 4 FEET (1 M) WEST OF A FIRE HYDRANT AND 1 FOOT (0.3 M) SOUTH OF U.S. HIGHWAY 6. DATUM SEPARATIONS WERE COMPUTED BY COLIER AND COLANINNO, INC. FEBRUARY 2008 AS MLLW - 1.02 FT = NAVD83 8.8 FT. TO OBTAIN VALUES IN NGVD28, SUBTRACT 1.02 FEET FROM THE INDICATED VALUE AT ANY POINT. HORIZONTAL CONTROL CAN BE OBTAINED FROM THE ENGINEER.
- 4. BASE PLAN FOR THIS FIGURE OBTAINED FROM U.S. ARMY CORPS OF ENGINEERS. EXISTING CONDITIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
- 5. HORIZONTAL AND VERTICAL CONTROL HAVE BEEN PROVIDED BY THE OWNER AND HAVE NOT BEEN INDEPENDENTLY VERIFIED. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF CONTROL DATA.
- 6. THE INFORMATION DEPICTED ON THIS DRAWING REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED ABOVE AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS AT THE TIME OF THE SURVEYS AND AT THE SOUNDING POINTS NOTED ON THE DRAWING.



GRAPHIC DEPICTION OF DATUM SEPARATIONS FOR NEW BEDFORD HARBOR



115 BROAD STREET
SUITE 200
BOSTON MA 02110
(617) 728-0070

REVISIONS		
NO.	DATE	DESCRIPTION
1.	08/08	PRELIM DREDGE LAYOUT
2.	11/14/08	REVISED
3.	11/16/08	REVISED

THESE DRAWINGS PREPARED BY APEX FOR THIS PROJECT ARE INSTRUMENTS OF APEX'S SERVICE FOR USE SOLELY WITH RESPECT TO THIS PROJECT, AND APEX SHALL BE DEEMED THE AUTHOR OF THE DRAWING AND SHALL RETAIN ALL COMMON LAW, STATUTORY AND OTHER RESERVED RIGHTS WITH RESPECT THERETO, INCLUDING COPYRIGHT. THE DOCUMENTS SHALL NOT BE USED ON OTHER PROJECTS, FOR ADDITIONS TO THIS PROJECT OR FOR COMPLETION OF THIS PROJECT BY OTHERS, EXCEPT BY AGREEMENT IN WRITING AND WITH APPROPRIATE COMPENSATION TO APEX.



PROJECT TITLE:
**NEW BEDFORD HARBOR
NAVIGATIONAL
DREDGE - PHASE III,
PART A & B**

PREPARED FOR:
**THE NEW BEDFORD
HARBOR DEVELOPMENT
COMMISSION
AND THE
TOWN OF FAIRHAVEN,
MASSACHUSETTS**

DRAWING TITLE:
**NEHEC MARINE
DREDGE AREA-
VIBRACORE AND BORING
LOCATION SHEET
NOT
FOR CONSTRUCTION**

Scale: 0 10 20 40 60 FEET	
Date 6/5/08	Drawing No. V-6
Proj. Mgr. JAB	
Design GCD	
Check CM	
Drawn GCD	
Job. No. 6615	
Last Rev. 10/30/08	



NOTES

1. COORDINATES SHOWN ARE IN THE STATE PLANE COORDINATE SYSTEM, MASSACHUSETTS MARLAND ZONE 2091, REFERENCED TO THE 1985 NORTH AMERICAN DATUM.
2. BASE PLAN FOR THIS PROJECT OBTAINED FROM U.S. ARMY CORPS OF ENGINEERS. EXISTING CONDITIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
3. HORIZONTAL AND VERTICAL CONTROL HAVE BEEN PROVIDED BY THE OWNER AND HAVE NOT BEEN INDEPENDENTLY VERIFIED. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF CONTROL DATA.

VC-07-08



PRE DREDGE SAMPLE LOCATION

POST_012010_G1

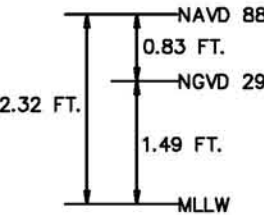


POST DREDGE SAMPLE LOCATION

309
POST_012010_ONWF1
310

311

GRAPHIC DEPICTION OF
DATUM SEPARATIONS FOR
NEW BEDFORD HARBOR



EBB
FLOOD



184 HIGH STREET
SUITE 202
BOSTON, MA 02110
(617) 728-0070

REVISIONS		
NO.	DATE	DESCRIPTION
1.	08/08/08	PRELIM DREDGE LAYOUT
2.	11/14/08	REVISED
3.	1/16/09	REVISED
4.	1/22/10	POST-DREDGE SAMPLES

THESE DRAWINGS PREPARED BY APEX FOR THIS PROJECT ARE INSTRUMENTS OF APEX'S SERVICE FOR USE SOLELY WITH RESPECT TO THIS PROJECT, AND APEX SHALL BE DEEMED THE AUTHOR OF THE DRAWING AND SHALL RETAIN ALL COMMON LAW, STATUTORY AND OTHER RESERVED RIGHTS WITH RESPECT THERETO, INCLUDING COPYRIGHT. THE DOCUMENTS SHALL NOT BE USED ON OTHER PROJECTS, FOR ADDITIONS TO THIS PROJECT OR FOR COMPLETION OF THIS PROJECT BY OTHERS, EXCEPT BY AGREEMENT IN WRITING AND WITH APPROPRIATE COMPENSATION TO APEX.



PROJECT TITLE

**NEW BEDFORD HARBOR
NAVIGATIONAL
DREDGE - PHASE III,
PART A & B**

PREPARED FOR:

**THE NEW BEDFORD
HARBOR DEVELOPMENT
COMMISSION
AND THE
TOWN OF FAIRHAVEN,
MASSACHUSETTS**

DRAWING TITLE:

**OLDE NORTH WHARF
FISHERIES DREDGE AREAS
PRE AND POST DREDGE
SAMPLING LOCATIONS
NOT
FOR CONSTRUCTION**

Scale:



Date 8/5/08

Proj. Mgr. JAB

Design GCD

Check CM

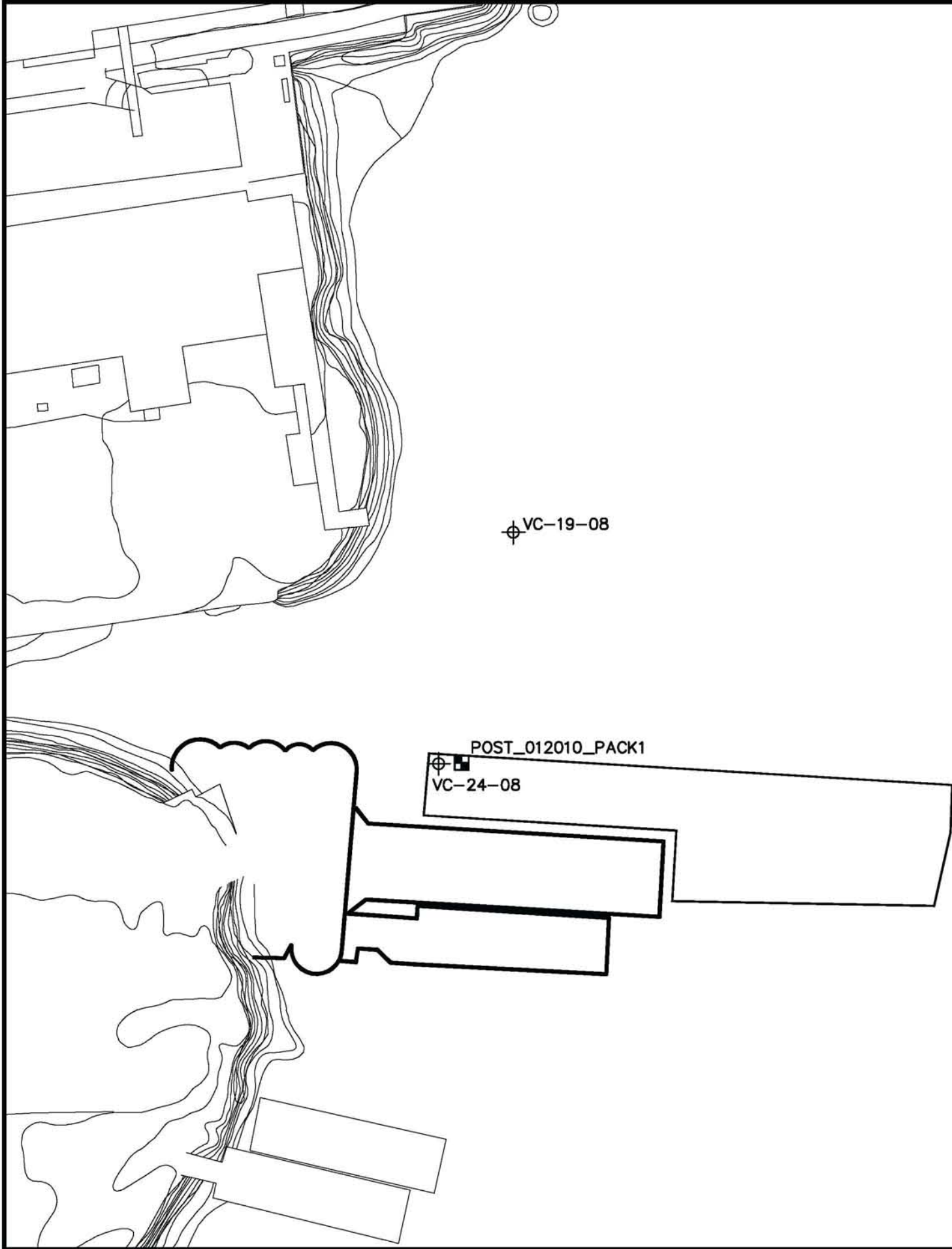
Drawn GCD

Job. No. 6815

Last Rev. 1/22/10

Drawing No.

V-7



NOTES

1. COORDINATES SHOWN ARE IN THE STATE PLANE COORDINATE SYSTEM, MASSACHUSETTS MAPLAND ZONE 2001, REFERENCED TO THE 1985 NORTH AMERICAN DATUM.
2. BASE PLAN FOR THIS PRELIM OBTAINED FROM U.S. ARMY CORPS OF ENGINEERS. EXISTING CONDITIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
3. HORIZONTAL AND VERTICAL CONTROL HAVE BEEN PROVIDED BY THE OWNER AND HAVE NOT BEEN INDEPENDENTLY VERIFIED. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF CONTROL DATA.

VC-07-08



PRE DREDGE SAMPLE LOCATION

POST_012010_G1



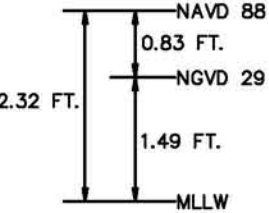
POST DREDGE SAMPLE LOCATION

VC-19-08

POST_012010_PACK1

VC-24-08

GRAPHIC DEPICTION OF
DATUM SEPARATIONS FOR
NEW BEDFORD HARBOR



EBB
FLOOD



104 HIGH STREET
SUITE 202
BOSTON, MA 02110
(617) 728-0570

REVISIONS

NO.	DATE	DESCRIPTION
1.	08/08/08	PRELIM DREDGE LAYOUT
2.	10/14/08	REV SET
3.	1/16/09	REV SET
4.	1/28/10	POST-DREDGE SAMPLES

THESE DRAWINGS PREPARED BY APEX FOR THIS PROJECT ARE INSTRUMENTS OF APEX'S SERVICE FOR USE SOLELY WITH RESPECT TO THIS PROJECT, AND APEX SHALL BE DEEMED THE AUTHOR OF THE DRAWING AND SHALL RETAIN ALL COMMON LAW, STATUTORY AND OTHER RESERVED RIGHTS WITH RESPECT THERETO, INCLUDING COPYRIGHT. THE DOCUMENTS SHALL NOT BE USED ON OTHER PROJECTS, FOR ADDITIONS TO THIS PROJECT OR FOR COMPLETION OF THIS PROJECT BY OTHERS, EXCEPT BY AGREEMENT IN WRITING AND WITH APPROPRIATE COMPENSATION TO APEX.



PROJECT TITLE:

NEW BEDFORD HARBOR
NAVIGATIONAL
DREDGE - PHASE III,
PART A & B

PREPARED FOR:

THE NEW BEDFORD
HARBOR DEVELOPMENT
COMMISSION
AND THE
TOWN OF FAIRHAVEN,
MASSACHUSETTS

DRAWING TITLE:

PACKER FUEL & MAR-LEES
DREDGE AREAS
PRE AND POST DREDGE
SAMPLING LOCATIONS
NOT
FOR CONSTRUCTION

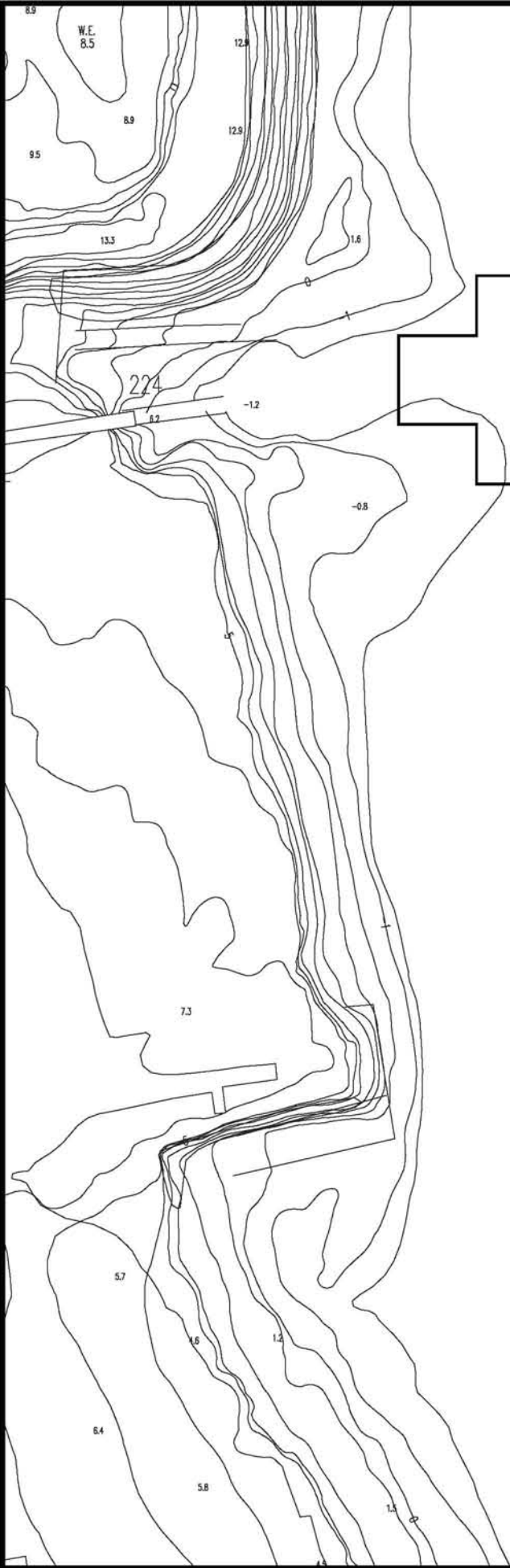
Scale:



Date 9/5/08
Proj. Mgr. JAB
Design GCD
Check CM
Drawn GCD
Job. No. 6815
Last Rev. 1/22/10

Drawing No.

V-8



NOTES

- 1. COORDINATES SHOWN ARE IN THE STATE PLANE COORDINATE SYSTEM, MASSACHUSETTS MAPLAND ZONE 2001, REFERENCED TO THE 1985 NORTH AMERICAN DATUM.
- 2. BASE PLAN FOR THIS PILELINE OBTAINED FROM U.S. ARMY CORPS OF ENGINEERS. EXISTING CONDITIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
- 3. HORIZONTAL AND VERTICAL CONTROL HAVE BEEN PROVIDED BY THE OWNER AND HAVE NOT BEEN INDEPENDENTLY VERIFIED. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF CONTROL DATA.



VC-07-08

PRE DREDGE SAMPLE LOCATION

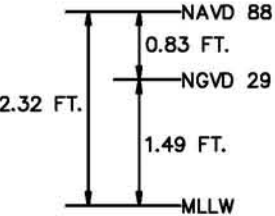


POST_012010_G1

POST DREDGE SAMPLE LOCATION



GRAPHIC DEPICTION OF
DATUM SEPARATIONS FOR
NEW BEDFORD HARBOR



104 HIGH STREET
SUITE 202
BOSTON, MA, 02110
(617) 728-0070

REVISIONS		
NO.	DATE	DESCRIPTION
1.	08/08	PRELIM DREDGE LAYOUT
2.	10/10/08	BID SET
3.	1/10/09	REVISED
4.	1/22/10	POST-DREDGE SAMPLING

THESE DRAWINGS PREPARED BY APEX FOR THIS PROJECT ARE INSTRUMENTS OF APEX'S SERVICE FOR USE SOLELY WITH RESPECT TO THIS PROJECT, AND APEX SHALL BE DEEMED THE AUTHOR OF THE DRAWING AND SHALL RETAIN ALL COMMON LAW, STATUTORY AND OTHER RESERVED RIGHTS WITH RESPECT THERETO, INCLUDING COPYRIGHT. THE DOCUMENTS SHALL NOT BE USED ON OTHER PROJECTS, FOR ADDITIONS TO THIS PROJECT OR FOR COMPLETION OF THIS PROJECT BY OTHERS, EXCEPT BY AGREEMENT IN WRITING AND WITH APPROPRIATE COMPENSATION TO APEX.



PROJECT TITLE:

NEW BEDFORD HARBOR
NAVIGATIONAL
DREDGE - PHASE III,
PART A & B

PREPARED FOR:

THE NEW BEDFORD
HARBOR DEVELOPMENT
COMMISSION
AND THE
TOWN OF FAIRHAVEN,
MASSACHUSETTS

DRAWING TITLE:

NEW BEDFORD ROWING
FACILITY DREDGE AREA
PRE AND POST DREDGE
SAMPLING LOCATIONS
NOT
FOR CONSTRUCTION



Date	9/5/08	Drawing No. V-9
Proj. Mgr.	JAB	
Design	GCD	
Check	CM	
Drawn	GCD	
Job. No.	6615	
Last Rev.	1/22/10	

APPENDIX A
SEDIMENT ANALYTICAL DATA



ANALYTICAL REPORT

Prepared for:

**Apex Environmental, Inc.
286 Congress Street
Suite 610
Boston, MA 02210**

Project: New Bedford Harbor
ETR: 0610188
Report Date: December 01, 2006

Certifications and Accreditations

**Massachusetts MA030
Connecticut PH-0141
New Hampshire 220602
Rhode Island 64
New Jersey MA015
Maine MA030
New York 11627
Louisiana 03090
Army Corps of Engineers
Department of the Navy
Florida E87814**

This report shall not be reproduced except in full, without written approval from the laboratory.



Sample ID Cross Reference



Client: **Apex Environmental, Inc.**
Project: **New Bedford Harbor**

Lab Code: **MA00030**
ETR: **0610188**

Lab Sample ID	Client Sample ID
0610188-02	301 0-1
0610188-03	302 0-1
0610188-04	303 0-1
0610188-06	304 0-1
0610188-08	305 0-1
0610188-09	306 0-1
0610188-11	307A 0-1
0610188-13	308 0-1
0610188-15	309 0-1
0610188-16	310 0-1
0610188-18	329 0-1
0610188-19	332A 0-1
0610188-20	330 0-1

Gaps in Lab Sample IDs are indicative of samples not analyzed per client request.

CASE NARRATIVE

Alpha Woods Hole Labs

ETR: 0610188
Project: New Bedford Harbor

All analyses were performed according to Alpha Woods Hole Labs quality assurance program and documented Standard Operating Procedures (SOPs). The analytical results contained in this report were performed within holding time, and with appropriate quality control measures, except where noted. A summary of all state and federal accreditations is provided within this report. Blank correction of results is not performed in the laboratory for any parameter. Soil/sediment samples are reported on a dry weight basis unless otherwise noted. Air and sediment samples are either not certifiable under the NELAC and/or are not currently held as accredited matrices.

Sample Receipt

1. Samples were frozen upon receipt, extending the extraction holding time.

Polychlorinated Biphenyls by GC/MS

1. Several target congeners analyzed by this method co-elute with non-target congeners and are therefore reported as a co-eluting pair. Refer to the individual report forms.
2. The initial analysis of several samples had concentrations that exceeded the calibration range of the instrument. These samples were reanalyzed at dilution and both analyses are reported. Refer to the individual report forms for dilution requirements.

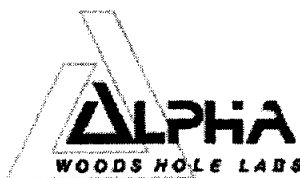
Extractable Petroleum Hydrocarbons by GC/FID

1. All data quality objectives were met.

The enclosed results of analyses are representative of the samples as received by the laboratory. Alpha Woods Hole Labs makes no representations or certifications as to the method of sample collection, sample identification, or transporting/handling procedures used prior to the receipt of samples by Alpha Woods Hole Labs. To the best of my knowledge, the information contained in this report is accurate and complete.

Approved by: Nancy a Rose Title: Project Manager Date: 11/30/06

PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **301 0-1**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610188**
 Lab ID: **0610188-02**
 Associated Blank: **SS111506B08**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
10/23/06	10/27/06	11/15/06	11/28/06	79.1	5.36	2	1	TLW

Parameter	Result
CI2-BZ#5/#8 ¹	5.4
CI3-BZ#18	12
CI3-BZ#28/#31 ¹	68
CI4-BZ#44	16
CI4-BZ#52	42
CI4-BZ#43/#49 ¹	41
CI4-BZ#66	29
CI5-BZ#101/#84 ¹	49
CI5-BZ#87	11
CI7-BZ#184	0.24 U
CI5-BZ#105	13
CI5-BZ#118	41
CI7-BZ#183	1.4
CI6-BZ#167/#128 ¹	7.7
CI6-BZ#138/#163 ¹	31
CI6-BZ#153	30
CI7-BZ#170/#190 ¹	3.0
CI7-BZ#180	4.5
CI7-BZ#182/#187 ¹	3.4
CI8-BZ#195	0.38
CI9-BZ#206	0.43
CI10-BZ#209	0.24 U

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
CI3-BZ#19-C13	82	50-125
CI8-BZ#202-C13	81	50-125

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: Apex Environmental, Inc.
Project: New Bedford Harbor
Client ID: 302 0-1
Case: N/A **SDG:** N/A
Matrix: Sediment

Lab Code: MA00030
ETR: 0610188
Lab ID: 0610188-03
Associated Blank: SS111506B08
Concentration Units: µg/Kg

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
10/23/06	10/27/06	11/15/06	11/28/06	59.4	5.63	2	1	TLW

Parameter	Result
Cl2-BZ#5/#8 ¹	46
Cl3-BZ#18	98
Cl3-BZ#28/#31 ¹	730 E
Cl4-BZ#44	140
Cl4-BZ#52	320 E
Cl4-BZ#43/#49 ¹	400
Cl4-BZ#66	350 E
Cl5-BZ#101/#84 ¹	480 E
Cl5-BZ#87	85
Cl7-BZ#184	0.30 U
Cl5-BZ#105	110
Cl5-BZ#118	440 E
Cl7-BZ#183	13
Cl6-BZ#167/#128 ¹	67
Cl6-BZ#138/#163 ¹	280
Cl6-BZ#153	320 E
Cl7-BZ#170/#190 ¹	28
Cl7-BZ#180	42
Cl7-BZ#182/#187 ¹	34
Cl8-BZ#195	3.7
Cl9-BZ#206	4.2
Cl10-BZ#209	1.7

¹ = These two Congeners are reported as a co-eluting pair.

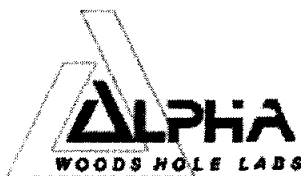
Surrogate	% Recovery	Acceptance Range (%)
Cl3-BZ#19-C13	73	50-125
Cl8-BZ#202-C13	77	50-125

N/A - Not Applicable

E - Estimated value, exceeds the upper limit of calibration.

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: Apex Environmental, Inc.
Project: New Bedford Harbor
Client ID: 302 0-1
Case: N/A **SDG:** N/A
Matrix: Sediment

Lab Code: MA00030
ETR: 0610188
Lab ID: 0610188-03E
Associated Blank: SS111506B08
Concentration Units: µg/Kg

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
10/23/06	10/27/06	11/15/06	11/28/06	59.4	5.63	2	5	TLW

Parameter	Result
CI2-BZ#5/#8 ¹	44
CI3-BZ#18	90
CI3-BZ#28/#31 ¹	670
CI4-BZ#44	130
CI4-BZ#52	290
CI4-BZ#43/#49 ¹	360
CI4-BZ#66	310
CI5-BZ#101/#84 ¹	450
CI5-BZ#87	81
CI7-BZ#184	1.5 U
CI5-BZ#105	100
CI5-BZ#118	410
CI7-BZ#183	15
CI6-BZ#167/#128 ¹	65
CI6-BZ#138/#163 ¹	270
CI6-BZ#153	310
CI7-BZ#170/#190 ¹	26
CI7-BZ#180	43
CI7-BZ#182/#187 ¹	38
CI8-BZ#195	4.9
CI9-BZ#206	5.1
CI10-BZ#209	3.0

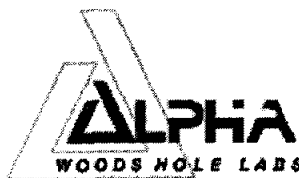
¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
CI3-BZ#19-C13	85	50-125
CI8-BZ#202-C13	96	50-125

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **303 0-1**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610188**
 Lab ID: **0610188-04**
 Associated Blank: **SS111506B08**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
10/23/06	10/27/06	11/15/06	11/28/06	38.5	5.89	2	1	TLW

Parameter	Result
CI2-BZ#5/#8 ¹	82
CI3-BZ#18	160
CI3-BZ#28/#31 ¹	1500 E
CI4-BZ#44	230
CI4-BZ#52	580 E
CI4-BZ#43/#49 ¹	840 E
CI4-BZ#66	680 E
CI5-BZ#101/#84 ¹	1000 E
CI5-BZ#87	190
CI7-BZ#184	0.44 U
CI5-BZ#105	260
CI5-BZ#118	980 E
CI7-BZ#183	31
CI6-BZ#167/#128 ¹	150
CI6-BZ#138/#163 ¹	650
CI6-BZ#153	730 E
CI7-BZ#170/#190 ¹	67
CI7-BZ#180	100
CI7-BZ#182/#187 ¹	82
CI8-BZ#195	11
CI9-BZ#206	11
CI10-BZ#209	4.6

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
CI3-BZ#19-CI3	82	50-125
CI8-BZ#202-CI3	84	50-125

N/A - Not Applicable

E - Estimated value, exceeds the upper limit of calibration.

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **303 0-1**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610188**
 Lab ID: **0610188-04E**
 Associated Blank: **SS111506B08**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
10/23/06	10/27/06	11/15/06	11/28/06	38.5	5.89	2	5	TLW

Parameter	Result
CI2-BZ#5/#8 ¹	81
CI3-BZ#18	150
CI3-BZ#28/#31 ¹	1500
CI4-BZ#44	230
CI4-BZ#52	570
CI4-BZ#43/#49 ¹	820
CI4-BZ#66	660
CI5-BZ#101/#84 ¹	1000
CI5-BZ#87	220
CI7-BZ#184	2.2 U
CI5-BZ#105	260
CI5-BZ#118	970
CI7-BZ#183	32
CI6-BZ#167/#128 ¹	160
CI6-BZ#138/#163 ¹	650
CI6-BZ#153	740
CI7-BZ#170/#190 ¹	67
CI7-BZ#180	100
CI7-BZ#182/#187 ¹	84
CI8-BZ#195	10
CI9-BZ#206	11
CI10-BZ#209	6.4

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
CI3-BZ#19-CI3	86	50-125
CI8-BZ#202-CI3	96	50-125

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **304 0-1**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610188**
 Lab ID: **0610188-06**
 Associated Blank: **SS111506B08**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
10/23/06	10/27/06	11/15/06	11/28/06	50.8	5.85	2	1	TLW

Parameter	Result
CI2-BZ#5/#8 ¹	52
CI3-BZ#18	170
CI3-BZ#28/#31 ¹	700 E
CI4-BZ#44	210
CI4-BZ#52	400 E
CI4-BZ#43/#49 ¹	330
CI4-BZ#66	340 E
CI5-BZ#101/#84 ¹	810 E
CI5-BZ#87	260
CI7-BZ#184	0.34 U
CI5-BZ#105	250
CI5-BZ#118	650 E
CI7-BZ#183	20
CI6-BZ#167/#128 ¹	120
CI6-BZ#138/#163 ¹	520
CI6-BZ#153	410 E
CI7-BZ#170/#190 ¹	45
CI7-BZ#180	67
CI7-BZ#182/#187 ¹	38
CI8-BZ#195	5.8
CI9-BZ#206	6.6
CI10-BZ#209	5.6

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
CI3-BZ#19-C13	83	50-125
CI8-BZ#202-C13	87	50-125

N/A - Not Applicable

E - Estimated value, exceeds the upper limit of calibration.

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **304 0-1**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610188**
 Lab ID: **0610188-06E**
 Associated Blank: **SS111506B08**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
10/23/06	10/27/06	11/15/06	11/28/06	50.8	5.85	2	5	TLW

Parameter	Result
CI2-BZ#5/#8 ¹	51
CI3-BZ#18	160
CI3-BZ#28/#31 ¹	660
CI4-BZ#44	200
CI4-BZ#52	380
CI4-BZ#43/#49 ¹	320
CI4-BZ#66	320
CI5-BZ#101/#84 ¹	780
CI5-BZ#87	250
CI7-BZ#184	1.7 U
CI5-BZ#105	240
CI5-BZ#118	610
CI7-BZ#183	20
CI6-BZ#167/#128 ¹	120
CI6-BZ#138/#163 ¹	500
CI6-BZ#153	390
CI7-BZ#170/#190 ¹	46
CI7-BZ#180	65
CI7-BZ#182/#187 ¹	40
CI8-BZ#195	7.9
CI9-BZ#206	6.6
CI10-BZ#209	3.9

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
CI3-BZ#19-CI3	86	50-125
CI8-BZ#202-CI3	86	50-125

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **305 0-1**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610188**
 Lab ID: **0610188-08**
 Associated Blank: **SS111506B08**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
10/23/06	10/27/06	11/15/06	11/28/06	38.8	5.66	2	1	TLW

Parameter	Result
CI2-BZ#5/#8 ¹	81
CI3-BZ#18	130
CI3-BZ#28/#31 ¹	1200 E
CI4-BZ#44	180
CI4-BZ#52	460 E
CI4-BZ#43/#49 ¹	670
CI4-BZ#66	560 E
CI5-BZ#101/#84 ¹	880 E
CI5-BZ#87	190
CI7-BZ#184	0.46 U
CI5-BZ#105	240
CI5-BZ#118	840 E
CI7-BZ#183	28
CI6-BZ#167/#128 ¹	140
CI6-BZ#138/#163 ¹	580
CI6-BZ#153	630 E
CI7-BZ#170/#190 ¹	57
CI7-BZ#180	90
CI7-BZ#182/#187 ¹	70
CI8-BZ#195	5.8
CI9-BZ#206	8.6
CI10-BZ#209	3.0

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
CI3-BZ#19-C13	77	50-125
CI8-BZ#202-C13	77	50-125

N/A - Not Applicable

E - Estimated value, exceeds the upper limit of calibration.

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **305 0-1**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610188**
 Lab ID: **0610188-08E**
 Associated Blank: **SS111506B08**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
10/23/06	10/27/06	11/15/06	11/28/06	38.8	5.66	2	5	TLW

Parameter	Result
Cl2-BZ#5/#8 ¹	78
Cl3-BZ#18	130
Cl3-BZ#28/#31 ¹	1200
Cl4-BZ#44	180
Cl4-BZ#52	450
Cl4-BZ#43/#49 ¹	660
Cl4-BZ#66	540
Cl5-BZ#101/#84 ¹	880
Cl5-BZ#87	190
Cl7-BZ#184	2.3 U
Cl5-BZ#105	230
Cl5-BZ#118	830
Cl7-BZ#183	27
Cl6-BZ#167/#128 ¹	140
Cl6-BZ#138/#163 ¹	580
Cl6-BZ#153	630
Cl7-BZ#170/#190 ¹	59
Cl7-BZ#180	90
Cl7-BZ#182/#187 ¹	73
Cl8-BZ#195	13
Cl9-BZ#206	8.3
Cl10-BZ#209	3.1

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
Cl3-BZ#19-C13	85	50-125
Cl8-BZ#202-C13	93	50-125

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **306 0-1**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610188**
 Lab ID: **0610188-09**
 Associated Blank: **SS111506B08**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
10/23/06	10/27/06	11/15/06	11/28/06	50.1	5.68	2	1	TLW

Parameter	Result
CI2-BZ#5/#8 ¹	63
CI3-BZ#18	120
CI3-BZ#28/#31 ¹	1100 E
CI4-BZ#44	200
CI4-BZ#52	450 E
CI4-BZ#43/#49 ¹	560 E
CI4-BZ#66	620 E
CI5-BZ#101/#84 ¹	820 E
CI5-BZ#87	180
CI7-BZ#184	0.35 U
CI5-BZ#105	230
CI5-BZ#118	770 E
CI7-BZ#183	24
CI6-BZ#167/#128 ¹	120
CI6-BZ#138/#163 ¹	520
CI6-BZ#153	530 E
CI7-BZ#170/#190 ¹	54
CI7-BZ#180	79
CI7-BZ#182/#187 ¹	59
CI8-BZ#195	6.7
CI9-BZ#206	7.3
CI10-BZ#209	4.0

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
CI3-BZ#19-C13	81	50-125
CI8-BZ#202-C13	87	50-125

N/A - Not Applicable

E - Estimated value, exceeds the upper limit of calibration.

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **306 0-1**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610188**
 Lab ID: **0610188-09E**
 Associated Blank: **SS111506B08**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
10/23/06	10/27/06	11/15/06	11/28/06	50.1	5.68	2	5	TLW

Parameter	Result
CI2-BZ#5/#8 ¹	62
CI3-BZ#18	130
CI3-BZ#28/#31 ¹	1100
CI4-BZ#44	210
CI4-BZ#52	450
CI4-BZ#43/#49 ¹	570
CI4-BZ#66	620
CI5-BZ#101/#84 ¹	840
CI5-BZ#87	180
CI7-BZ#184	1.8 U
CI5-BZ#105	220
CI5-BZ#118	760
CI7-BZ#183	26
CI6-BZ#167/#128 ¹	130
CI6-BZ#138/#163 ¹	520
CI6-BZ#153	540
CI7-BZ#170/#190 ¹	51
CI7-BZ#180	80
CI7-BZ#182/#187 ¹	60
CI8-BZ#195	6.8
CI9-BZ#206	5.6
CI10-BZ#209	4.8

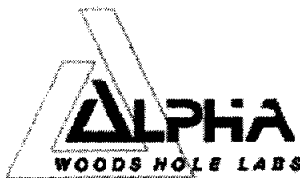
¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
CI3-BZ#19-C13	89	50-125
CI8-BZ#202-C13	97	50-125

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **307A 0-1**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610188**
 Lab ID: **0610188-11**
 Associated Blank: **SS111506B08**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
10/23/06	10/27/06	11/15/06	11/28/06	57.7	5.60	2	1	TLW

Parameter	Result
CI2-BZ#5/#8 ¹	87
CI3-BZ#18	300 E
CI3-BZ#28/#31 ¹	1500 E
CI4-BZ#44	370 E
CI4-BZ#52	570 E
CI4-BZ#43/#49 ¹	620 E
CI4-BZ#66	740 E
CI5-BZ#101/#84 ¹	920 E
CI5-BZ#87	270 E
CI7-BZ#184	0.31 U
CI5-BZ#105	290 E
CI5-BZ#118	760 E
CI7-BZ#183	29
CI6-BZ#167/#128 ¹	130
CI6-BZ#138/#163 ¹	540 E
CI6-BZ#153	460 E
CI7-BZ#170/#190 ¹	54
CI7-BZ#180	100
CI7-BZ#182/#187 ¹	66
CI8-BZ#195	9.2
CI9-BZ#206	19
CI10-BZ#209	3.8

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
CI3-BZ#19-C13	81	50-125
CI8-BZ#202-C13	86	50-125

N/A - Not Applicable

E - Estimated value, exceeds the upper limit of calibration.

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: Apex Environmental, Inc.
Project: New Bedford Harbor
Client ID: 307A 0-1
Case: N/A **SDG:** N/A
Matrix: Sediment

Lab Code: MA00030
ETR: 0610188
Lab ID: 0610188-11E
Associated Blank: SS111506B08
Concentration Units: µg/Kg

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
10/23/06	10/27/06	11/15/06	11/28/06	57.7	5.60	2	5	TLW

Parameter	Result
CI2-BZ#5/#8 ¹	82
CI3-BZ#18	280
CI3-BZ#28/#31 ¹	1400
CI4-BZ#44	360
CI4-BZ#52	550
CI4-BZ#43/#49 ¹	590
CI4-BZ#66	710
CI5-BZ#101/#84 ¹	890
CI5-BZ#87	260
CI7-BZ#184	1.6 U
CI5-BZ#105	270
CI5-BZ#118	710
CI7-BZ#183	29
CI6-BZ#167/#128 ¹	120
CI6-BZ#138/#163 ¹	510
CI6-BZ#153	440
CI7-BZ#170/#190 ¹	52
CI7-BZ#180	97
CI7-BZ#182/#187 ¹	64
CI8-BZ#195	11
CI9-BZ#206	18
CI10-BZ#209	4.3

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
CI3-BZ#19-CI3	90	50-125
CI8-BZ#202-CI3	89	50-125

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **308 0-1**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610188**
 Lab ID: **0610188-13**
 Associated Blank: **SS111506B08**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
10/23/06	10/27/06	11/15/06	11/28/06	71.1	5.88	2	1	TLW

Parameter	Result
CI2-BZ#5/#8 ¹	14
CI3-BZ#18	33
CI3-BZ#28/#31 ¹	190
CI4-BZ#44	39
CI4-BZ#52	84
CI4-BZ#43/#49 ¹	94
CI4-BZ#66	84
CI5-BZ#101/#84 ¹	120
CI5-BZ#87	32
CI7-BZ#184	0.24 U
CI5-BZ#105	36
CI5-BZ#118	110
CI7-BZ#183	4.1
CI6-BZ#167/#128 ¹	20
CI6-BZ#138/#163 ¹	80
CI6-BZ#153	80
CI7-BZ#170/#190 ¹	8.3
CI7-BZ#180	12
CI7-BZ#182/#187 ¹	9.6
CI8-BZ#195	1.1
CI9-BZ#206	1.6
CI10-BZ#209	1.1

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
CI3-BZ#19-C13	86	50-125
CI8-BZ#202-C13	90	50-125

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: Apex Environmental, Inc.
Project: New Bedford Harbor
Client ID: 309 0-1
Case: N/A **SDG:** N/A
Matrix: Sediment

Lab Code: MA00030
ETR: 0610188
Lab ID: 0610188-15
Associated Blank: SS111506B08
Concentration Units: µg/Kg

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
10/24/06	10/27/06	11/15/06	11/28/06	70.1	5.37	2	1	TLW

Parameter	Result
CI2-BZ#5/#8'	26
CI3-BZ#18	57
CI3-BZ#28/#31'	330
CI4-BZ#44	73
CI4-BZ#52	160
CI4-BZ#43/#49'	180
CI4-BZ#66	140
CI5-BZ#101/#84'	240
CI5-BZ#87	61
CI7-BZ#184	0.27 U
CI5-BZ#105	65
CI5-BZ#118	200
CI7-BZ#183	7.2
CI6-BZ#167/#128'	36
CI6-BZ#138/#163'	150
CI6-BZ#153	140
CI7-BZ#170/#190'	15
CI7-BZ#180	24
CI7-BZ#182/#187'	16
CI8-BZ#195	2.4
CI9-BZ#206	2.8
CI10-BZ#209	2.0

' = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
CI3-BZ#19-C13	82	50-125
CI8-BZ#202-C13	89	50-125

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **310 0-1**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610188**
 Lab ID: **0610188-16**
 Associated Blank: **SS111506B08**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
10/24/06	10/27/06	11/15/06	11/28/06	73.3	5.75	2	1	TLW

Parameter	Result
Cl2-BZ#5/#8 ¹	85
Cl3-BZ#18	260 E
Cl3-BZ#28/#31 ¹	1100 E
Cl4-BZ#44	280 E
Cl4-BZ#52	420 E
Cl4-BZ#43/#49 ¹	420 E
Cl4-BZ#66	460 E
Cl5-BZ#101/#84 ¹	700 E
Cl5-BZ#87	220 E
Cl7-BZ#184	0.24 U
Cl5-BZ#105	210 E
Cl5-BZ#118	530 E
Cl7-BZ#183	19
Cl6-BZ#167/#128 ¹	98
Cl6-BZ#138/#163 ¹	420 E
Cl6-BZ#153	350 E
Cl7-BZ#170/#190 ¹	42
Cl7-BZ#180	65
Cl7-BZ#182/#187 ¹	46
Cl8-BZ#195	6.3
Cl9-BZ#206	5.4
Cl10-BZ#209	2.8

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
Cl3-BZ#19-C13	81	50-125
Cl8-BZ#202-C13	84	50-125

N/A - Not Applicable

E - Estimated value, exceeds the upper limit of calibration.

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **310 0-1**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610188**
 Lab ID: **0610188-16E**
 Associated Blank: **SS111506B08**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
10/24/06	10/27/06	11/15/06	11/28/06	73.3	5.75	2	5	TLW

Parameter	Result
Cl2-BZ#5/#8 ¹	86
Cl3-BZ#18	260
Cl3-BZ#28/#31 ¹	1100
Cl4-BZ#44	290
Cl4-BZ#52	420
Cl4-BZ#43/#49 ¹	420
Cl4-BZ#66	480
Cl5-BZ#101/#84 ¹	730
Cl5-BZ#87	230
Cl7-BZ#184	1.2 U
Cl5-BZ#105	220
Cl5-BZ#118	540
Cl7-BZ#183	20
Cl6-BZ#167/#128 ¹	100
Cl6-BZ#138/#163 ¹	430
Cl6-BZ#153	360
Cl7-BZ#170/#190 ¹	44
Cl7-BZ#180	67
Cl7-BZ#182/#187 ¹	49
Cl8-BZ#195	7.6
Cl9-BZ#206	5.3
Cl10-BZ#209	3.4

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
Cl3-BZ#19-C13	83	50-125
Cl8-BZ#202-C13	99	50-125

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **329 0-1**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610188**
 Lab ID: **0610188-18**
 Associated Blank: **SS111506B08**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
10/23/06	10/27/06	11/15/06	11/28/06	48.6	5.89	2	1	TLW

Parameter	Result
CI2-BZ#5/#8 ¹	49
CI3-BZ#18	92
CI3-BZ#28/#31 ¹	600 E
CI4-BZ#44	130
CI4-BZ#52	260
CI4-BZ#43/#49 ¹	290
CI4-BZ#66	230
CI5-BZ#101/#84 ¹	370
CI5-BZ#87	88
CI7-BZ#184	0.35 U
CI5-BZ#105	98
CI5-BZ#118	310 E
CI7-BZ#183	18
CI6-BZ#167/#128 ¹	57
CI6-BZ#138/#163 ¹	240
CI6-BZ#153	260
CI7-BZ#170/#190 ¹	39
CI7-BZ#180	68
CI7-BZ#182/#187 ¹	46
CI8-BZ#195	8.4
CI9-BZ#206	7.5
CI10-BZ#209	2.1

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
CI3-BZ#19-C13	81	50-125
CI8-BZ#202-C13	87	50-125

N/A - Not Applicable

E - Estimated value, exceeds the upper limit of calibration.

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **329 0-1**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610188**
 Lab ID: **0610188-18E**
 Associated Blank: **SS111506B08**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
10/23/06	10/27/06	11/15/06	11/28/06	48.6	5.89	2	2	TLW

Parameter	Result
CI2-BZ#5/#8 ¹	48
CI3-BZ#18	87
CI3-BZ#28/#31 ¹	540
CI4-BZ#44	120
CI4-BZ#52	260
CI4-BZ#43/#49 ¹	290
CI4-BZ#66	220
CI5-BZ#101/#84 ¹	370
CI5-BZ#87	90
CI7-BZ#184	0.70 U
CI5-BZ#105	97
CI5-BZ#118	310
CI7-BZ#183	18
CI6-BZ#167/#128 ¹	57
CI6-BZ#138/#163 ¹	240
CI6-BZ#153	260
CI7-BZ#170/#190 ¹	37
CI7-BZ#180	69
CI7-BZ#182/#187 ¹	46
CI8-BZ#195	7.3
CI9-BZ#206	7.3
CI10-BZ#209	1.7

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
CI3-BZ#19-C13	81	50-125
CI8-BZ#202-C13	84	50-125

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **332A 0-1**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610188**
 Lab ID: **0610188-19**
 Associated Blank: **SS111506B08**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
10/23/06	10/27/06	11/15/06	11/28/06	95.9	5.36	2	1	TLW

Parameter	Result
CI2-BZ#5/#8 ¹	1.5
CI3-BZ#18	2.8
CI3-BZ#28/#31 ¹	14
CI4-BZ#44	3.9
CI4-BZ#52	7.4
CI4-BZ#43/#49 ¹	7.5
CI4-BZ#66	5.4
CI5-BZ#101/#84 ¹	11
CI5-BZ#87	3.0
CI7-BZ#184	0.19 U
CI5-BZ#105	3.0
CI5-BZ#118	8.1
CI7-BZ#183	0.69
CI6-BZ#167/#128 ¹	1.9
CI6-BZ#138/#163 ¹	7.4
CI6-BZ#153	7.6
CI7-BZ#170/#190 ¹	1.2
CI7-BZ#180	2.6
CI7-BZ#182/#187 ¹	1.9
CI8-BZ#195	0.74
CI9-BZ#206	0.19 U
CI10-BZ#209	0.30

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
CI3-BZ#19-C13	68	50-125
CI8-BZ#202-C13	74	50-125

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **330 0-1**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610188**
 Lab ID: **0610188-20**
 Associated Blank: **SS111506B08**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
10/23/06	10/27/06	11/15/06	11/28/06	35.3	5.77	2	1	TLW

Parameter	Result
CI2-BZ#5/#8 ¹	130
CI3-BZ#18	290
CI3-BZ#28/#31 ¹	1400 E
CI4-BZ#44	390
CI4-BZ#52	560 E
CI4-BZ#43/#49 ¹	600
CI4-BZ#66	590 E
CI5-BZ#101/#84 ¹	900 E
CI5-BZ#87	250
CI7-BZ#184	0.49 U
CI5-BZ#105	260
CI5-BZ#118	690 E
CI7-BZ#183	57
CI6-BZ#167/#128 ¹	140
CI6-BZ#138/#163 ¹	600
CI6-BZ#153	570 E
CI7-BZ#170/#190 ¹	120
CI7-BZ#180	220
CI7-BZ#182/#187 ¹	130
CI8-BZ#195	23
CI9-BZ#206	21
CI10-BZ#209	4.8

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
CI3-BZ#19-C13	67	50-125
CI8-BZ#202-C13	69	50-125

N/A - Not Applicable

E - Estimated value, exceeds the upper limit of calibration.

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: Apex Environmental, Inc.
Project: New Bedford Harbor
Client ID: 330 0-1
Case: N/A **SDG:** N/A
Matrix: Sediment

Lab Code: MA00030
ETR: 0610188
Lab ID: 0610188-20E
Associated Blank: SS111506B08
Concentration Units: µg/Kg

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
10/23/06	10/27/06	11/15/06	11/29/06	35.3	5.77	2	5	TLW

Parameter	Result
CI2-BZ#5/#8 ¹	140
CI3-BZ#18	260
CI3-BZ#28/#31 ¹	1300
CI4-BZ#44	340
CI4-BZ#52	600
CI4-BZ#43/#49 ¹	620
CI4-BZ#66	600
CI5-BZ#101/#84 ¹	930
CI5-BZ#87	260
CI7-BZ#184	2.4 U
CI5-BZ#105	250
CI5-BZ#118	680
CI7-BZ#183	56
CI6-BZ#167/#128 ¹	140
CI6-BZ#138/#163 ¹	580
CI6-BZ#153	570
CI7-BZ#170/#190 ¹	110
CI7-BZ#180	210
CI7-BZ#182/#187 ¹	140
CI8-BZ#195	26
CI9-BZ#206	22
CI10-BZ#209	6.3

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
CI3-BZ#19-C13	74	50-125
CI8-BZ#202-C13	74	50-125

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

Blank PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **Blank**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610188**
 Lab ID: **SS111506B08**
 Associated Blank: **N/A**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	11/15/06	11/27/06	100	5.00	2	1	TLW

Parameter	Result
CI2-BZ#5/#8 ¹	0.40 U
CI3-BZ#18	0.20 U
CI3-BZ#28/#31 ¹	0.40 U
CI4-BZ#44	0.20 U
CI4-BZ#52	0.20 U
CI4-BZ#43/#49 ¹	0.40 U
CI4-BZ#66	0.20 U
CI5-BZ#101/#84 ¹	0.40 U
CI5-BZ#87	0.20 U
CI7-BZ#184	0.20 U
CI5-BZ#105	0.20 U
CI5-BZ#118	0.20 U
CI7-BZ#183	0.20 U
CI6-BZ#167/#128 ¹	0.40 U
CI6-BZ#138/#163 ¹	0.40 U
CI6-BZ#153	0.20 U
CI7-BZ#170/#190 ¹	0.40 U
CI7-BZ#180	0.20 U
CI7-BZ#182/#187 ¹	0.40 U
CI8-BZ#195	0.20 U
CI9-BZ#206	0.20 U
CI10-BZ#209	0.20 U

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
CI3-BZ#19-CI3	83	50-125
CI8-BZ#202-CI3	75	50-125

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

Laboratory Control Summary PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **Laboratory Control Sample**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610188**
 Lab ID: **See Below**
 Associated Blank: **SS111506B08**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Percent Solid	Analyst
N/A	N/A	11/15/06	100	TLW

Lab ID: SS111506B08 SS111506LCS05 SS111506LCSD05

Parameter	Blank Conc.	U	LCS		LCSD		% RPD	RPD % Recovery	
			Conc.	% Recovery	Conc.	% Recovery		Limit	Limits
CI2-BZ#5/#8 ¹	0.40	U	6.2	78	6.4	79	2	50	40-140
CI3-BZ#18	0.20	U	6.3	78	6.4	80	2	50	40-140
CI3-BZ#28/#31 ¹	0.40	U	12	76	12	77	1	50	40-140
CI4-BZ#44	0.20	U	5.6	70	5.8	72	2	50	40-140
CI4-BZ#52	0.20	U	5.8	73	5.9	74	1	50	40-140
CI4-BZ#43/#49 ¹	0.40	U	6.5	81	6.8	85	4	50	40-140
CI4-BZ#66	0.20	U	5.2	65	6.0	75	14	50	40-140
CI5-BZ#101/#84 ¹	0.40	U	6.2	77	6.2	78	1	50	40-140
CI5-BZ#87	0.20	U	4.8	60	4.9	61	1	50	40-140
CI5-BZ#105	0.20	U	4.8	60	4.7	59	2	50	40-140
CI5-BZ#118	0.20	U	5.1	63	5.0	62	2	50	40-140
CI7-BZ#183	0.20	U	5.6	70	5.5	69	0	50	40-140
CI6-BZ#167/#128 ¹	0.40	U	11	66	10	66	1	50	40-140
CI6-BZ#138/#163 ¹	0.40	U	4.4	54	4.4	55	1	50	40-140
CI6-BZ#153	0.20	U	5.4	68	5.4	68	0	50	40-140
CI7-BZ#170/#190 ¹	0.40	U	4.6	57	4.5	56	2	50	40-140
CI7-BZ#180	0.20	U	6.4	80	6.6	83	4	50	40-140
CI7-BZ#182/#187 ¹	0.40	U	5.9	74	6.0	75	2	50	40-140
CI8-BZ#195	0.20	U	5.6	69	5.4	68	2	50	40-140
CI9-BZ#206	0.20	U	5.5	69	5.6	70	1	50	40-140
CI10-BZ#209	0.20	U	5.5	68	5.4	68	1	50	40-140

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery		Acceptance Range (%)
CI3-BZ#19-CI3	84	86	50-125
CI8-BZ#202-CI3	82	81	50-125

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded result.

11/30/06 13:08

ETR #: 0610188

CLIENT: Apex

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Review Items	Y/N/A	Yes	No	Reason why data reportable? Narrate w/ PM.	Total Score
A. Tune 1. Did PFTBA meet the Tune criteria before the ICAL? Did DFIPP meet SW-846 criteria before every CCV? Did DFIPP meet Max. Sensitivity criteria before every CCV?		✓		PFTBA Date(s): Circle tuning method(s) used (at left).	✓
B. Initial Calibration Verification 1. Has an Initial Calibration Checklist been completed for all ICALs? (Note any QC anomalies). 2. Was the correct ICAL method used for sample quantitation? (Check "Quant File ID" and compare w/ Method(s) above). If wrong, data needs to be reprocessed w/ the correct Method(s) above.		✓		Notes:	✓
C. Continuing Calibration Verification 1. Has a CCV Checklist been completed for each Analytical Batch? (Note any QC anomalies). 2. Were all samples injected between CCVs that were 12 hours apart (including ending CCV)?		✓		Notes:	✓
D. Sample Results 1. Was the correct analysis performed? Is all paperwork present? (Check BTR worksheet & comments). 2. Is the header information correct? (If not, 2nd bring data package back to the Lab for corrections.) 3. Sample analyses done within preparation and analytical holding time (HT)? If No, list samples and reasons: [Prep.=Aqu.-7 days; Soil -14 days; Analytical= 40 days]		✓		Client will do summation reported NAA 22 test list per Thm na	✓
Sample(s) Reason(s) HT frozen - checked 12g		✓		1. HT had expired before receipt of sample(s).-Narrate 2. Sample received with < 3 days left for extraction. 3. Client requested analysis after HT expired.*-Narrate 4. Re-extraction done after HT expired.-Narrate 5. Other:	✓
4. Are surrogates within 50-125% R? If No, list Samples/Surrogates/Reasons: Sample(s) Surrogate(s) Reason(s)		✓		6. Surrogate %R outside QC limits due to matrix effect. MS/MSD surr. %R demonstrated same effect.-Narrate 7. Surrogate %R outside QC limits due to matrix effect since re-extraction/re-analysis demonstrated the same effect. Report original and Narrate. 8. Surrogate %R outside QC limits due to obvious matrix interferences. Explain/Narrate: (Analyst has confirmed w/ Section Head.) 9. Surrogate %R outside QC limits; however, there wasn't sample left to re-extract. -Narrate/PM notified. 10. Surrogate %R outside QC limits; re-extraction outside HT; both sets of data are reported.-Narrate/PM notified. 11. Surrogate %R outside QC limits; however, at the client's request, the data were flagged and released without further investigation. *-Narrate 12. Surrogates diluted out.	✓
5. Is largest compound diluted to upper half of calibration range? If no, list sample(s): Sample(s) Dilution(s) Reason(s)		✓		13. At the client's request, the sample was analyzed with minimum dilution even though some compounds were outside of calibration range. *-Narrate 14. Largest compound diluted to acceptable concentration based on normal sample dilution volumes. 15. Sample showed matrix inhomogeneity. Duplicate analysis (or Re-extraction) was within calibration range, both analyses are reported.-Narrate 16. Other:	✓

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Extractable Petroleum Hydrocarbons by GC/FID



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **301 0-1**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610188**
 Lab ID: **0610188-02**
 Associated Blank: **ES111506B10**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Percent Solid	Sample Amount (g)	Fraction	Date Analyzed	Final Volume (ml)	Dilution Factor	Analyst
10/23/06	10/27/06	11/15/06	79.1	10.47	Aromatic	11/22/06	1	1	JBS
					Aliphatic	11/22/06	1	1	JBS

Parameter	Result
C ₉ -C ₁₈ Aliphatics ¹	3600 U
C ₁₉ -C ₃₆ Aliphatics ¹	34000
C ₁₁ -C ₂₂ Aromatics ^{1,2}	12000
Unadjusted C ₁₁ -C ₂₂ Aromatics ¹	12000

Naphthalene	600 U
2-Methylnaphthalene	600 U
Acenaphthylene	600 U
Acenaphthene	600 U
Fluorene	600 U
Phenanthrene	600 U
Anthracene	600 U
Fluoranthene	600 U
Pyrene	600 U
Benzo(a)anthracene	600 U
Chrysene	600 U
Benzo(b)fluoranthene	600 U
Benzo(k)fluoranthene	600 U
Benzo(a)pyrene	600 U
Indeno(1,2,3-cd)pyrene ³	1200 U
Dibenzo(a,h)anthracene ³	1200 U
Benzo(g,h,i)perylene	600 U

¹ = Range concentration excludes the concentration of any surrogate(s) and/or internal standards eluting in that range.

² = C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes.

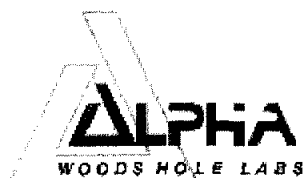
³ = Values reported reflect their sum.

Extraction Surrogate	% Recovery	Acceptance Range (%)
5-alpha Androstane	67	40-140
ortho-Terphenyl	74	40-140
Fractionation Surrogate		
Biphenyl	85	40-140
2-Fluorobiphenyl	83	40-140

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

Extractable Petroleum Hydrocarbons by GC/FID



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **307A 0-1**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610188**
 Lab ID: **0610188-11**
 Associated Blank: **ES111506B10**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Percent Solid	Sample Amount (g)	Fraction	Date Analyzed	Final Volume (ml)	Dilution Factor	Analyst
10/23/06	10/27/06	11/15/06	57.7	10.43	Aromatic	11/22/06	1	1	JBS
					Aliphatic	11/22/06	1	1	JBS

Parameter	Result
C ₉ -C ₁₈ Aliphatics ¹	300000
C ₁₉ -C ₃₆ Aliphatics ¹	1300000
C ₁₁ -C ₂₂ Aromatics ^{1,2}	310000
Unadjusted C ₁₁ -C ₂₂ Aromatics ¹	320000

Naphthalene	830	U
2-Methylnaphthalene	830	U
Acenaphthylene	830	U
Acenaphthene	830	U
Fluorene	830	U
Phenanthrene	830	U
Anthracene	830	U
Fluoranthene	1000	
Pyrene	2000	
Benzo(a)anthracene	990	
Chrysene	890	
Benzo(b)fluoranthene	1300	
Benzo(k)fluoranthene	830	U
Benzo(a)pyrene	920	
Indeno(1,2,3-cd)pyrene ³	1700	U
Dibenzo(a,h)anthracene ³	1700	U
Benzo(g,h,i)perylene	830	U

¹ = Range concentration excludes the concentration of any surrogate(s) and/or internal standards eluting in that range.

² = C₁₁-C₂₂ Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes.

³ = Values reported reflect their sum.

Extraction Surrogate	% Recovery	Acceptance Range (%)
5-alpha Androstane	73	40-140
ortho-Terphenyl	69	40-140
Fractionation Surrogate		
Biphenyl	89	40-140
2-Fluorobiphenyl	86	40-140

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

Extractable Petroleum Hydrocarbons by GC/FID



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **309 0-1**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610188**
 Lab ID: **0610188-15**
 Associated Blank: **ES111506B10**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Percent Solid	Sample Amount (g)	Fraction	Date Analyzed	Final Volume (ml)	Dilution Factor	Analyst
10/24/06	10/27/06	11/15/06	70.1	10.92	Aromatic	11/27/06	1	1	JBS
					Aliphatic	11/27/06	1	1	JBS

Parameter	Result
C ₉ -C ₁₈ Aliphatics ¹	48000
C ₁₉ -C ₃₆ Aliphatics ¹	300000
C ₁₁ -C ₂₂ Aromatics ^{1,2}	100000
Unadjusted C ₁₁ -C ₂₂ Aromatics ¹	110000

Naphthalene	650 U
2-Methylnaphthalene	650 U
Acenaphthylene	650 U
Acenaphthene	650 U
Fluorene	650 U
Phenanthrene	650 U
Anthracene	650 U
Fluoranthene	860
Pyrene	1800
Benzo(a)anthracene	650 U
Chrysene	650 U
Benzo(b)fluoranthene	650 U
Benzo(k)fluoranthene	650 U
Benzo(a)pyrene	650 U
Indeno(1,2,3-cd)pyrene ³	1300 U
Dibenzo(a,h)anthracene ³	1300 U
Benzo(g,h,i)perylene	650 U

¹ = Range concentration excludes the concentration of any surrogate(s) and/or internal standards eluting in that range.

² = C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes.

³ = Values reported reflect their sum.

Extraction Surrogate	% Recovery	Acceptance Range (%)
5-alpha Androstane	77	40-140
ortho-Terphenyl	86	40-140
Fractionation Surrogate		
Biphenyl	94	40-140
2-Fluorobiphenyl	91	40-140

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

Extractable Petroleum Hydrocarbons by GC/FID



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **332A 0-1**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610188**
 Lab ID: **0610188-19**
 Associated Blank: **ES111506B10**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Percent Solid	Sample Amount (g)	Fraction	Date Analyzed	Final Volume (ml)	Dilution Factor	Analyst
10/23/06	10/27/06	11/15/06	95.9	10.32	Aromatic	11/22/06	1	1	JBS
					Aliphatic	11/22/06	1	1	JBS

Parameter	Result
C ₉ -C ₁₈ Aliphatics ¹	32000
C ₁₉ -C ₃₆ Aliphatics ¹	26000
C ₁₁ -C ₂₂ Aromatics ^{1,2}	40000
Unadjusted C ₁₁ -C ₂₂ Aromatics ¹	40000

Naphthalene	500	U
2-Methylnaphthalene	500	U
Acenaphthylene	500	U
Acenaphthene	500	U
Fluorene	500	U
Phenanthrene	500	U
Anthracene	500	U
Fluoranthene	500	U
Pyrene	500	U
Benzo(a)anthracene	500	U
Chrysene	500	U
Benzo(b)fluoranthene	500	U
Benzo(k)fluoranthene	500	U
Benzo(a)pyrene	500	U
Indeno(1,2,3-cd)pyrene ³	1000	U
Dibenzo(a,h)anthracene ³	1000	U
Benzo(g,h,i)perylene	500	U

¹ = Range concentration excludes the concentration of any surrogate(s) and/or internal standards eluting in that range.

² = C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes.

³ = Values reported reflect their sum.

Extraction Surrogate	% Recovery	Acceptance Range (%)
5-alpha Androstane	68	40-140
ortho-Terphenyl	66	40-140
Fractionation Surrogate		
Biphenyl	74	40-140
2-Fluorobiphenyl	72	40-140

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

Blank Extractable Petroleum Hydrocarbons by GC/FID



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **Blank**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610188**
 Lab ID: **ES111506B10**
 Associated Blank: **N/A**

Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Percent Solid	Sample Amount (g)	Fraction	Date Analyzed	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	11/15/06	100	10.00	Aromatic	11/22/06	1	1	JBS
					Aliphatic	11/22/06	1	1	JBS

Parameter	Result
C ₉ -C ₁₈ Aliphatics ¹	3000 U
C ₁₉ -C ₃₆ Aliphatics ¹	4000 U
C ₁₁ -C ₂₂ Aromatics ^{1,2}	8500 U
Unadjusted C ₁₁ -C ₂₂ Aromatics ¹	8500 U

Naphthalene	500 U
2-Methylnaphthalene	500 U
Acenaphthylene	500 U
Acenaphthene	500 U
Fluorene	500 U
Phenanthrene	500 U
Anthracene	500 U
Fluoranthene	500 U
Pyrene	500 U
Benzo(a)anthracene	500 U
Chrysene	500 U
Benzo(b)fluoranthene	500 U
Benzo(k)fluoranthene	500 U
Benzo(a)pyrene	500 U
Indeno(1,2,3-cd)pyrene ³	1000 U
Dibenzo(a,h)anthracene ³	1000 U
Benzo(g,h,i)perylene	500 U

¹ = Range concentration excludes the concentration of any surrogate(s) and/or internal standards eluting in that range.

² = C₁₁-C₂₂ Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes.

³ = Values reported reflect their sum.

Extraction Surrogate	% Recovery	Acceptance Range (%)
5-alpha Androstane	70	40-140
ortho-Terphenyl	74	40-140
Fractionation Surrogate		
Biphenyl	88	40-140
2-Fluorobiphenyl	86	40-140

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

Laboratory Control Summary

Extractable Petroleum Hydrocarbons by GC/FID



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **Laboratory Control Sample**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610188**
 Lab ID: **See Below**
 Associated Blank: **ES111506B10**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Percent Solid	Analyst
N/A	N/A	11/15/06	100	JBS

Lab ID: ES111506B10 ES111506LCS07 ES111506LCSD07

Parameter	Blank Conc.		LCS Conc.	% Recovery	LCSD Conc.	% Recovery	% RPD	RPD Limit	% Recovery Limits
Naphthalene	500	U	5800	58	5700	57	2	25	40-140
2-Methylnaphthalene	500	U	6300	63	6200	62	2	25	40-140
Acenaphthylene	500	U	6800	68	6700	67	2	25	40-140
Acenaphthene	500	U	6900	69	6800	68	2	25	40-140
Fluorene	500	U	7400	75	7300	73	2	25	40-140
Phenanthrene	500	U	7700	77	7600	75	2	25	40-140
Anthracene	500	U	7600	76	7400	75	2	25	40-140
Fluoranthene	500	U	7600	76	7500	75	2	25	40-140
Pyrene	500	U	7900	79	7700	77	2	25	40-140
Benzo(a)anthracene	500	U	7800	78	7600	76	2	25	40-140
Chrysene	500	U	7900	79	7800	78	1	25	40-140
Benzo(b)fluoranthene	500	U	8000	80	7900	79	2	25	40-140
Benzo(k)fluoranthene	500	U	7800	78	7600	76	2	25	40-140
Benzo(a)pyrene	500	U	8100	81	8000	80	1	25	40-140
Indeno(1,2,3-cd)pyrene ¹	1000	U	16000	80	16000	79	1	25	40-140
Dibenzo(a,h)anthracene ³	1000	U	16000	80	16000	79	1	25	40-140
Benzo(g,h,i)perylene	500	U	8100	81	8000	80	2	25	40-140
n-Nonane (C9)	500	U	3400	34	3600	36	6	25	30-140
n-Decane (C10)	500	U	4800	48	5100	51	6	25	40-140
n-Dodecane (C12)	500	U	5900	59	6300	63	7	25	40-140
n-Tetradecane (C14)	500	U	6800	68	7100	71	5	25	40-140
n-Hexadecane (C16)	500	U	7300	73	7600	76	3	25	40-140
n-Octadecane (C18)	500	U	7700	77	8000	80	3	25	40-140
n-Nonadecane (C19)	500	U	8000	80	8300	83	3	25	40-140
n-Eicosane (C20)	500	U	7900	79	8100	81	3	25	40-140
n-Docosane (C22)	500	U	7900	79	7900	79	0	25	40-140
n-Tetracosane (C24)	500	U	8000	80	8000	80	1	25	40-140
n-Hexacosane (C26)	500	U	7900	79	8000	80	1	25	40-140
n-Octacosane (C28)	500	U	7800	78	7800	78	0	25	40-140
n-Triacontane (C30)	500	U	7800	78	7800	78	0	25	40-140
n-Hexatriacontane (C36)	500	U	8400	84	8400	84	0	25	40-140

¹ = Range concentration excludes the concentration of any surrogate(s) and/or internal standards eluting in that range.

³ = Values reported reflect their sum.

Extraction Surrogate	% Recovery	Acceptance Range (%)
5-alpha Androstane	73 76	40-140
ortho-Terphenyl	78 76	40-140
Fractionation Surrogate		
Biphenyl	85 82	40-140
2-Fluorobiphenyl	82 80	40-140

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded result.

11/28/06 12:13

Laboratory Control Summary

Extractable Petroleum Hydrocarbons by GC/FID



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **Laboratory Control Sample**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610188**
 Lab ID: **See Below**
 Associated Blank: **ES111506B10**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Percent Solid	Analyst
N/A	N/A	11/15/06	100	JBS

Aliphatic Breakthrough Criteria

Lab ID:	ES111506LCS07	ES111506LCSD07	
Parameter	LCS % Breakthrough	LCSD % Breakthrough	% Breakthrough Maximum Limit
Naphthalene	0.1	0.1	5
2-Methylnaphthalene	0.2	0.2	5

N/A - Not Applicable

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded result.

11/28/06 12:13

Total Metals



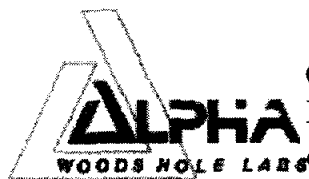
Client: **Apex Environmental, Inc.**
Project: **New Bedford Harbor**
Case: **N/A** SDG: **N/A**
Client ID: **301 0-1**
Matrix: **Sediment**
Percent Solid: **79.1**

Lab Code: **MA00030**
ETR: **0610188**
Lab ID: **0610188-02**
Concentration Units: **mg/Kg**
Date Collected: **10/23/06**
Date Received: **10/27/06**

Parameter	Result	Qualifier	Reporting Limit	Dilution	Date Analyzed	Date Prepared	Analytical Method	Analyst
Arsenic	2.4		0.099	5	11/10/06	11/08/06	6020A	LCP
Barium	6.2		0.099	5	11/10/06	11/08/06	6020A	LCP
Cadmium	0.21		0.040	5	11/10/06	11/08/06	6020A	LCP
Chromium	16		0.99	5	11/10/06	11/08/06	6020A	LCP
Lead	24		0.099	5	11/10/06	11/08/06	6020A	LCP
Mercury	0.19		0.0060	1	11/09/06	11/08/06	7471A	LMR
Selenium	0.55		0.40	5	11/10/06	11/08/06	6020A	LCP
Silver	0.21		0.092	5	11/13/06	11/08/06	6020A	LMR

N/A - Not Applicable

Total Metals



Client: **Apex Environmental, Inc.**
Project: **New Bedford Harbor**
Case: **N/A** SDG: **N/A**
Client ID: **307A 0-1**
Matrix: **Sediment**
Percent Solid: **57.7**

Lab Code: **MA00030**
ETR: **0610188**
Lab ID: **0610188-11**
Concentration Units: **mg/Kg**
Date Collected: **10/23/06**
Date Received: **10/27/06**

Parameter	Result	Qualifier	Reporting Limit	Dilution	Date Analyzed	Date Prepared	Analytical Method	Analyst
Arsenic	5.9		0.12	5	11/10/06	11/08/06	6020A	LCP
Barium	32		0.12	5	11/10/06	11/08/06	6020A	LCP
Cadmium	4.4		0.050	5	11/10/06	11/08/06	6020A	LCP
Chromium	260		1.2	5	11/10/06	11/08/06	6020A	LCP
Lead	190		0.12	5	11/10/06	11/08/06	6020A	LCP
Mercury	0.94		0.039	5	11/09/06	11/08/06	7471A	LMR
Selenium	1.4		0.50	5	11/10/06	11/08/06	6020A	LCP
Silver	1.8		0.12	5	11/13/06	11/08/06	6020A	LMR

N/A - Not Applicable

11/13/06 15:48

Total Metals



Client: **Apex Environmental, Inc.**
Project: **New Bedford Harbor**
Case: **N/A** SDG: **N/A**
Client ID: **309 0-1**
Matrix: **Sediment**
Percent Solid: **70.1**

Lab Code: **MA00030**
ETR: **0610188**
Lab ID: **0610188-15**
Concentration Units: **mg/Kg**
Date Collected: **10/24/06**
Date Received: **10/27/06**

Parameter	Result	Qualifier	Reporting Limit	Dilution	Date Analyzed	Date Prepared	Analytical Method	Analyst
Arsenic	5.7		0.11	5	11/10/06	11/08/06	6020A	LCP
Barium	160		0.11	5	11/10/06	11/08/06	6020A	LCP
Cadmium	0.93		0.045	5	11/10/06	11/08/06	6020A	LCP
Chromium	56		1.1	5	11/10/06	11/08/06	6020A	LCP
Lead	360		0.11	5	11/10/06	11/08/06	6020A	LCP
Mercury	0.43		0.0066	1	11/09/06	11/08/06	7471A	LMR
Selenium	0.96		0.45	5	11/10/06	11/08/06	6020A	LCP
Silver	0.54		0.11	5	11/13/06	11/08/06	6020A	LMR

N/A - Not Applicable

11/13/06 15:49

Total Metals



Client: **Apex Environmental, Inc.**
Project: **New Bedford Harbor**
Case: **N/A** SDG: **N/A**
Client ID: **332A 0-1**
Matrix: **Sediment**
Percent Solid: **95.9**

Lab Code: **MA00030**
ETR: **0610188**
Lab ID: **0610188-19**
Concentration Units: **mg/Kg**
Date Collected: **10/23/06**
Date Received: **10/27/06**

Parameter	Result	Qualifier	Reporting Limit	Dilution	Date Analyzed	Date Prepared	Analytical Method	Analyst
Arsenic	0.90		0.090	5	11/10/06	11/08/06	6020A	LCP
Barium	3.0		0.090	5	11/10/06	11/08/06	6020A	LCP
Cadmium	0.071		0.036	5	11/10/06	11/08/06	6020A	LCP
Chromium	3.7		0.90	5	11/10/06	11/08/06	6020A	LCP
Lead	10		0.090	5	11/10/06	11/08/06	6020A	LCP
Mercury	0.027		0.0051	1	11/09/06	11/08/06	7471A	LMR
Selenium	0.36	U	0.36	5	11/10/06	11/08/06	6020A	LCP
Silver	0.093	U	0.093	5	11/13/06	11/08/06	6020A	LMR

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

Blank Total Metals



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Case: **N/A** SDG: **N/A**
 Client ID: **Blank**
 Matrix: **Sediment**
 Percent Solid: **100.0**

Lab Code: **MA00030**
 ETR: **0610188**
 Lab ID: **MS110606B06B**
 Concentration Units: **mg/Kg**
 Date Collected: **N/A**
 Date Received: **N/A**

Parameter	Result	Qualifier	Reporting Limit	Dilution	Date Analyzed	Date Prepared	Analytical Method	Analyst
Arsenic	0.12	U	0.12	5	11/10/06	11/08/06	6020A	LCP
Barium	0.12	U	0.12	5	11/10/06	11/08/06	6020A	LCP
Cadmium	0.050	U	0.050	5	11/10/06	11/08/06	6020A	LCP
Chromium	1.2	U	1.2	5	11/10/06	11/08/06	6020A	LCP
Lead	0.12	U	0.12	5	11/10/06	11/08/06	6020A	LCP
Selenium	0.50	U	0.50	5	11/10/06	11/08/06	6020A	LCP

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

11/13/06 16:01

Blank Total Metals



Client: **Apex Environmental, Inc.**
Project: **New Bedford Harbor**
Case: **N/A** SDG: **N/A**
Client ID: **Blank**
Matrix: **Sediment**
Percent Solid: **100.0**

Lab Code: **MA00030**
ETR: **0610188**
Lab ID: **MS110606B05B**
Concentration Units: **mg/Kg**
Date Collected: **N/A**
Date Received: **N/A**

Parameter	Result	Qualifier	Reporting Limit	Dilution	Date Analyzed	Date Prepared	Analytical Method	Analyst
Silver	0.12	U	0.12	5	11/13/06	11/08/06	6020A	LMR

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

11/13/06 16:02

Blank Total Metals



Client: **Apex Environmental, Inc.**
Project: **New Bedford Harbor**
Case: **N/A** SDG: **N/A**
Client ID: **Blank**
Matrix: **Sediment**
Percent Solid: **100.0**

Lab Code: **MA00030**
ETR: **0610188**
Lab ID: **MS110606B07B**
Concentration Units: **mg/Kg**
Date Collected: **N/A**
Date Received: **N/A**

Parameter	Result	Qualifier	Reporting Limit	Dilution	Date Analyzed	Date Prepared	Analytical Method	Analyst
Mercury	0.010	U	0.010	1	11/09/06	11/08/06	7471A	LMR

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

11/13/06 16:03

Laboratory Control Sample - High Total Metals



Client: **Apex Environmental, Inc.**
Project: **New Bedford Harbor**
Case: **N/A** SDG: **N/A**
Client ID: **Lab Control Sample High**
Matrix: **Sediment**
Percent Solid: **100.0**

Lab Code: **MA00030**
ETR: **0610188**
Lab ID: **MS110606SLH03SLH**
Concentration Units: **mg/Kg**
Date Collected: **N/A**
Date Received: **N/A**

Parameter	Conc.	% Recovery	% Recovery Limits
Arsenic	200	99	80-120
Barium	200	100	80-120
Cadmium	99	99	80-120
Chromium	200	100	80-120
Lead	190	96	80-120
Selenium	200	101	80-120

N/A - Not Applicable

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded results.

11/13/06 16:01

Laboratory Control Sample - Low Total Metals



Client: **Apex Environmental, Inc.**
Project: **New Bedford Harbor**
Case: **N/A** SDG: **N/A**
Client ID: **Lab Control Sample Low**
Matrix: **Sediment**
Percent Solid: **100.0**

Lab Code: **MA00030**
ETR: **0610188**
Lab ID: **MS110606SLL02SLL**
Concentration Units: **mg/Kg**
Date Collected: **N/A**
Date Received: **N/A**

Parameter	Conc.	% Recovery	% Recovery Limits
Silver	2.2	108	80-120

N/A - Not Applicable

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded results.

11/13/06 16:02

Laboratory Control Sample Total Metals



Client: **Apex Environmental, Inc.**
Project: **New Bedford Harbor**
Case: **N/A** SDG: **N/A**
Client ID: **Laboratory Control Sample**
Matrix: **Sediment**
Percent Solid: **100.0**

Lab Code: **MA00030**
ETR: **0610188**
Lab ID: **MS110606SLC02SLC**
Concentration Units: **mg/Kg**
Date Collected: **N/A**
Date Received: **N/A**

Parameter	Conc.	% Recovery	% Recovery Limits
Mercury	0.48	97	80-120

N/A - Not Applicable

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded results.

11/13/06 16:03

Inorganics



Client: **Apex Environmental, Inc.**
Project: **New Bedford Harbor**
Case: **N/A** SDG: **N/A**
Client ID: **301 0-1**
Matrix: **Sediment**
Percent Solid: **79.1**

Lab Code: **MA00030**
ETR: **0610188**
Lab ID: **0610188-02**
Date Collected: **10/23/06**
Date Received: **10/27/06**

Parameter	Result	Qualifier	Reporting Limit	Dilution	Date Analyzed	Unit	Analytical Method	Analyst
Total Organic Carbon (Run 1)	0.53		0.01	1	11/14/06	%	9060	JAD
Total Organic Carbon (Run 2)	0.65		0.01	1	11/14/06	%	9060	JAD
Reactive Sulfide	2.4		0.28	1	11/15/06	mg/Kg	Ch.7/376.2	JAD

N/A - Not Applicable

Inorganics



Client: **Apex Environmental, Inc.**

Project: **New Bedford Harbor**

Case: **N/A** SDG: **N/A**

Client ID: **307A 0-1**

Matrix: **Sediment**

Percent Solid: **57.7**

Lab Code: **MA00030**

ETR: **0610188**

Lab ID: **0610188-11**

Date Collected: **10/23/06**

Date Received: **10/27/06**

Parameter	Result	Qualifier	Reporting Limit	Dilution	Date Analyzed	Unit	Analytical Method	Analyst
Total Organic Carbon (Run 1)	0.98		0.01	1	11/14/06	%	9060	JAD
Total Organic Carbon (Run 2)	0.86		0.01	1	11/14/06	%	9060	JAD
Reactive Sulfide	150		14	50	11/15/06	mg/Kg	Ch.7/376.2	JAD

N/A - Not Applicable

Inorganics



Client: **Apex Environmental, Inc.**
Project: **New Bedford Harbor**
Case: **N/A** SDG: **N/A**
Client ID: **309 0-1**
Matrix: **Sediment**
Percent Solid: **70.1**

Lab Code: **MA00030**

ETR: **0610188**

Lab ID: **0610188-15**

Date Collected: **10/24/06**

Date Received: **10/27/06**

Parameter	Result	Qualifier	Reporting Limit	Dilution	Date Analyzed	Unit	Analytical Method	Analyst
Total Organic Carbon (Run 1)	2.0		0.01	1	11/14/06	%	9060	JAD
Total Organic Carbon (Run 2)	1.8		0.01	1	11/14/06	%	9060	JAD
Reactive Sulfide	190		14	50	11/15/06	mg/Kg	Ch.7/376.2	JAD

N/A - Not Applicable

Inorganics



Client: **Apex Environmental, Inc.**
Project: **New Bedford Harbor**
Case: **N/A** SDG: **N/A**
Client ID: **332A 0-1**
Matrix: **Sediment**
Percent Solid: **95.9**

Lab Code: **MA00030**
ETR: **0610188**
Lab ID: **0610188-19**
Date Collected: **10/23/06**
Date Received: **10/27/06**

Parameter	Result	Qualifier	Reporting Limit	Dilution	Date Analyzed	Unit	Analytical Method	Analyst
Total Organic Carbon (Run 1)	0.12		0.01	1	11/14/06	%	9060	JAD
Total Organic Carbon (Run 2)	0.12		0.01	1	11/14/06	%	9060	JAD
Reactive Sulfide	11		1.4	5	11/15/06	mg/Kg	Ch.7/376.2	JAD

N/A - Not Applicable

Blank Inorganics



Client: **Apex Environmental, Inc.**
Project: **New Bedford Harbor**
Case: **N/A** SDG: **N/A**
Client ID: **Blank**
Matrix: **Sediment**
Percent Solid: **100**

Lab Code: **MA00030**
ETR: **0610188**
Lab ID: **WS111406B16**
Date Collected: **N/A**
Date Received: **N/A**

Parameter	Result	Qualifier	Reporting Limit	Dilution	Date Analyzed	Unit	Analytical Method	Analyst
Total Organic Carbon (Run 1)	0.01	U	0.01	1	11/14/06	%	9060	JAD
Total Organic Carbon (Run 2)	0.01	U	0.01	1	11/14/06	%	9060	JAD

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

Blank Inorganics



Client: **Apex Environmental, Inc.**
Project: **New Bedford Harbor**
Case: **N/A** SDG: **N/A**
Client ID: **Blank**
Matrix: **Sediment**
Percent Solid: **100**

Lab Code: **MA00030**
ETR: **0610188**
Lab ID: **WS111506B23**
Date Collected: **N/A**
Date Received: **N/A**

Parameter	Result	Qualifier	Reporting Limit	Dilution	Date Analyzed	Unit	Analytical Method	Analyst
Reactive Sulfide	1.0	U	1.0	1	11/15/06	mg/Kg	Ch.7/376.2	JAD

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

Standard Reference Material 1944

Inorganics



Client: **Apex Environmental, Inc.**
Project: **New Bedford Harbor**
Case: **N/A** SDG: **N/A**
Client ID: **SRM 1944**
Matrix: **Sediment**
Percent Solid: **100**

Lab Code: **MA00030**

ETR: **0610188**

Lab ID: **WS111406L194404**

Date Collected: **N/A**

Date Received: **N/A**

Parameter	Conc.	% Recovery	% Recovery Limits
Total Organic Carbon (Run 1)	3.8	87	75-125
Total Organic Carbon (Run 2)	3.5	80	75-125

N/A - Not Applicable

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded results.

12/01/06 08:12

Laboratory Control Sample Inorganics



Client: **Apex Environmental, Inc.**
Project: **New Bedford Harbor**
Case: **N/A** SDG: **N/A**
Client ID: **Laboratory Control Sample**
Matrix: **Sediment**
Percent Solid: **100**

Lab Code: **MA00030**
ETR: **0610188**
Lab ID: **WS111506L07**
Date Collected: **N/A**
Date Received: **N/A**

Parameter	Conc.	% Recovery	% Recovery Limits
Reactive Sulfide	26	91	75-125

N/A - Not Applicable

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded results.

12/01/06 08:12

Sample Receipt Checklist

Page 1 of 1

Client: <u>APFENV</u>	Receipt Date: <u>10/27/06</u>
Project: <u>NB Harbor Phase II</u>	Log-in Date: <u>↓</u>
ETR #: <u>0610188</u>	Inspection by: <u>W</u> Login by: <u>W</u>

ALL SECTIONS BELOW MUST BE COMPLETED

Comments / Notes

Were samples shipped? Yes, FedEx / UPS / Other: <u>No, WHG Courier pick-up</u> / Hand delivered	Sample storage refrigerator #: <u>C3</u>
Is bill of lading retained? Yes, Tracking #: <u>No, Unavailable / NA</u>	Sample storage freezer #: <u></u>
Number of coolers received for this project delivery: <u>1</u>	
Indicate cooler temperature upon opening (if multiple coolers, record <u>all</u> temps): Note: If <u>all</u> coolers are 2-6°C, use one checklist, if NOT, use separate checklists and note <u>all</u> samples received <u>above</u> 6°C. Cooler 1: Temperature(s) taken from: <u>4°</u> IR Gun, <u>3°</u> Temp. Blank, / NA	Cooler 2: <u></u> Cooler 3: <u></u> Cooler 4: <u></u> Cooler 5: <u></u> Cooler 6: <u></u> Cooler 7: <u></u> More: <u></u>
Were samples received on ice? <u>Yes</u> / No	
Chain-of-Custody present? <u>Yes</u> / No Complete? <u>Yes</u> / No	
Custody seals present on Cooler? Yes / <u>No</u> on Bottles? Yes / <u>No</u> Intact? Yes / No / <u>NA</u> Note: Affix custody seals to back of this page.	
Were sample containers intact? <u>Yes</u> / No If No, list samples: →	
Did VOA/VPH waters contain headspace (>5mm)? Yes / No <u>NA</u> If Yes, list samples: →	
Were 5035 VOA soils, or VPH soils, covered with MeOH? Yes / No / <u>NA</u> If No, list samples: →	
Was a sufficient amount of sample received for each test indicated on the COC? <u>Yes</u> / No If No, list samples: →	
If chemical preservation is appropriate - Were samples field preserved? Yes / No / <u>NA</u> <input type="checkbox"/> C=HCl <input type="checkbox"/> M=MeOH <input type="checkbox"/> S=H ₂ SO ₄ <input type="checkbox"/> H=NaOH <input type="checkbox"/> N=HNO ₃ <input type="checkbox"/> Other: <u></u> <input type="checkbox"/> U= Unknown	Chemical preservation OK for ALL samples? Yes / No / <u>N/A</u> If No, list samples below:
Preservation (pH) verified at lab for EVERY bottle? (Not: VOA / VPH / Sulfide) YES: <2 or >12 (CN) or NO <u>NA</u> If No, why?:	
Were samples received within hold time? <u>Yes</u> / No If No, list samples: →	
Discrepancy between samples rec'd & COC? Yes / <u>No</u> If Yes, list samples: →	
Was the Project Manager notified of any other problems? Yes / No / NA	
Project Manager Acknowledgement: <u>Wm. A. Bern</u> Date: <u>10/27/06</u>	Please use back for any additional notes!

Certificate Program Summary



Method numbers assume the most recent EPA revisions. For a complete listing of analytes for the referenced methods please contact your Alpha Woods Hole Lab Project Manager or the Quality Assurance Manager.

Connecticut Department of Public Health Certificate No. : PH-0141 - *Wastewater* (General Chemistry: 120.1, 150.1, 160.1, 160.2, 180.1, 300.0, 310.1, 335.2, 365.2, 405.1, 413.1, COD HACH 8000; Metals: 200.7, 245.1; Organics: 608, 624, 625). *Solid Waste/Soil* (General Chemistry: 1010, 9010/9014, 9045, 9056, 9060; Metals: 6010, 6020, 7041, 7471; Organics: 8081, 8082, 8260, 8270, ETPH).

Florida Department of Health Certificate No. : E87814 - Secondary NELAP Accreditation for *Wastewater* (General Chemistry: 120.1/2510B, 150.1, 160.1/SM2540C, 160.2/SM2540D, 180.1, 300.0, SM2320B, 335.2, 365.2, 413.1, 420.1, SM2540G, COD HACH 8000; Metals: 200.7, 204.2, 206.2, 239.2, 245.1, 270.2, 279.2; Organics: 608, 624, 625). *Solid and Hazardous Waste* (General Chemistry: 9010/9014, 9045, 9050, 9056, 9060, 9065; Metals: 6010, 6020, 7041, 7060, 7421, 7470, 7471, 7740, 7841; Organics: 8081, 8082, 8260, 8270).

Louisiana Department of Environmental Quality Certificate No. : 03090 - Primary NELAP Accrediting Authority for *Wastewater* (General Chemistry: 120.1/2510B, 150.1, 160.1/SM2540C, 160.2/SM2540D, 180.1, 300.0, 310.1/SM2320B, 335.2, 365.2, 376.2, 405.1, 413.1, 420.1, SM2540G, COD HACH 8000; Metals: 200.7, 204.2, 206.2, 239.2, 245.1, 270.2, 279.2; Organics: 608, 624, 625). *Solid and Hazardous Waste* (General Chemistry: 1010, 1311, 9010/9014, 9045, 9056, 9060; Metals: 6010, 6020, 7041, 7060, 7191, 7421, 7470, 7471, 7740, 7841; Organics: 8081, 8082, 8260, 8270).

Maine Department of Human Services Certificate No. : MA030 - *Wastewater* (General Chemistry: 120.1/2510B, 150.1, 160.1/SM2540C, 160.2/SM2540D, 180.1, 300.0, 310.1/SM2320B, 335.2, 365.2, 405.1, 413.1, 420.1, COD HACH 8000; Metals: 200.7, 239.2, 245.1, 270.2, 279.2; Organics: 608, 624).

Massachusetts Department of Environmental Protection Certificate No. : M-MA030 - *Wastewater* (General Chemistry: 120.1/2510B, 150.1, 160.1/SM2540C, 160.2/SM2540D, 180.1, 300.0, 310.1/SM2320B, 335.2, 365.2, 405.1, 413.1, 420.1, COD HACH 8000; Metals: 200.7, 239.2, 245.1, 270.2, 279.2; Organics: 608, 624).

New Hampshire Department of Environmental Services Certificate No. : 220604 - Secondary NELAP Accreditation for *Wastewater* (General Chemistry: 120.1/2510B, 150.1, 160.1/SM2540C, 160.2/SM2540D, 180.1, 300.0, 310.1/SM2320B, 335.2, 365.2, 376.2, 405.1, 413.1, 420.1, COD HACH 8000, SM2540G; Metals: 200.7, 204.2, 206.2, 239.2, 245.1, 270.2, 279.2; Organics: 608, 624, 625).

New Jersey Department of Environmental Protection Certificate No. : MA015 - *Solid and Hazardous Waste* (General Chemistry: 1010, 1311, 3060, 7196, 9010/9014, 9045, 9056, 9060; Metals: 3010, 3015, 3020, 3050, 3051, 6010, 6020, 7041, 7060, 7131, 7191, 7211, 7421, 7470, 7471, 7520, 7740, 7761, 7841; Organics: 3510, 3545, 5030, 5035, 3620, 3630, 3640, 3660, 8081, 8082, 8100, 8260, 8270).

New York Department of Health Certificate No. : 11627 - Secondary NELAP Accreditation for *Wastewater* (Metals: 200.7, 204.2, 206.2, 239.2, 245.1, 270.2, 279.2; Organics: 608, 624, 625). *Solid and Hazardous Waste* (Metals: 6010, 7041, 7060, 7470, 7471, 7740; Organics: 8081, 8082, 8260, 8270).

Rhode Island Department of Health Certificate No. : 00064 - Chemistry: *Organic and Inorganic in Surface Water, Wastewater/Sewage and Soil* (Method numbers not specified with certificate.)

U.S. Army Corps of Engineers - General Chemistry: 9010/9014, 9071/418.1, 9060; Organics: 8081, 8082, 8260, 8270, 8270-SIM; Metals: 6010, 6020, 7000.

Department of the Navy - General Chemistry: 9010/9014, 9060; Organics: 8081, 8082, 8015-mod, 8260, 8270, 8270-SIM; Metals: 6010, 6020.



ANALYTICAL REPORT

Prepared for:

**Apex Environmental, Inc.
286 Congress Street
Suite 610
Boston, MA 02210**

Project: New Bedford Harbor
ETR: 0610189
Report Date: December 04, 2006

Certifications and Accreditations

**Massachusetts MA030
Connecticut PH-0141
New Hampshire 220602
Rhode Island 64
New Jersey MA015
Maine MA030
New York 11627
Louisiana 03090
Army Corps of Engineers
Department of the Navy
Florida E87814**

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Sample ID Cross Reference



Client: **Apex Environmental, Inc.**
Project: **New Bedford Harbor**

Lab Code: **MA00030**
ETR: **0610189**

Lab Sample ID	Client Sample ID
0610189-01	311 0-1
0610189-03	316 0-1
0610189-04	319 0-1
0610189-05	321 0-1
0610189-06	325 0-1
0610189-07	327 0-1
0610189-08	328 0-1
0610189-09	331 0-1
0610189-10	333 0-1
0610189-11	334 0-1
0610189-12	335 0-1
0610189-13	336 0-1
0610189-14	337 0-1

Gaps in Lab Sample IDs are indicative of samples not analyzed per client request.

CASE NARRATIVE

Alpha Woods Hole Labs

ETR: 0610189
Project: New Bedford Harbor

All analyses were performed according to Alpha Woods Hole Labs quality assurance program and documented Standard Operating Procedures (SOPs). The analytical results contained in this report were performed within holding time, and with appropriate quality control measures, except where noted. A summary of all state and federal accreditations is provided within this report. Blank correction of results is not performed in the laboratory for any parameter. Soil/sediment samples are reported on a dry weight basis unless otherwise noted. Air and sediment samples are either not certifiable under the NELAC and/or are not currently held as accredited matrices.

Sample Receipt

1. Samples were frozen upon receipt, extending the extraction holding time.

Polychlorinated Biphenyls by GC/MS

1. Several target congeners analyzed by this method co-elute with non-target congeners and are therefore reported as a co-eluting pair. Refer to the individual report forms.
2. The initial analysis of several samples had concentrations that exceeded the calibration range of the instrument. These samples were reanalyzed at dilution and both analyses are reported. Refer to the individual report forms for dilution requirements.

Extractable Petroleum Hydrocarbons by GC/FID

1. All data quality objectives were met.

The enclosed results of analyses are representative of the samples as received by the laboratory. Alpha Woods Hole Labs makes no representations or certifications as to the method of sample collection, sample identification, or transporting/handling procedures used prior to the receipt of samples by Alpha Woods Hole Labs. To the best of my knowledge, the information contained in this report is accurate and complete.

Approved by: Nancy J. Rose Title: Project Manager Date: 12/4/06

PCB CONGENERS

PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **311 0-1**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610189**
 Lab ID: **0610189-01**
 Associated Blank: **SS111506B09**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
10/24/06	10/27/06	11/15/06	11/29/06	65.7	5.42	2	1	TLW

Parameter	Result
CI2-BZ#5/#8 ¹	29
CI3-BZ#18	65
CI3-BZ#28/#31 ¹	390
CI4-BZ#44	95
CI4-BZ#52	170
CI4-BZ#43/#49 ¹	200
CI4-BZ#66	190
CI5-BZ#101/#84 ¹	300
CI5-BZ#87	78
CI7-BZ#184	0.28 U
CI5-BZ#105	81
CI5-BZ#118	240 E
CI7-BZ#183	9.4
CI6-BZ#167/#128 ¹	43
CI6-BZ#138/#163 ¹	180
CI6-BZ#153	160
CI7-BZ#170/#190 ¹	20
CI7-BZ#180	32
CI7-BZ#182/#187 ¹	21
CI8-BZ#195	2.5
CI9-BZ#206	3.0
CI10-BZ#209	1.2

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
CI3-BZ#19-C13	76	50-125
CI8-BZ#202-C13	76	50-125

N/A - Not Applicable

E - Estimated value, exceeds the upper limit of calibration.

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **311 0-1**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610189**
 Lab ID: **0610189-01E**
 Associated Blank: **SS111506B09**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
10/24/06	10/27/06	11/15/06	11/29/06	65.7	5.42	2	5	TLW

Parameter	Result
CI2-BZ#5/#8 ¹	31
CI3-BZ#18	65
CI3-BZ#28/#31 ¹	370
CI4-BZ#44	95
CI4-BZ#52	170
CI4-BZ#43/#49 ¹	190
CI4-BZ#66	180
CI5-BZ#101/#84 ¹	300
CI5-BZ#87	80
CI7-BZ#184	1.4 U
CI5-BZ#105	80
CI5-BZ#118	230
CI7-BZ#183	11
CI6-BZ#167/#128 ¹	44
CI6-BZ#138/#163 ¹	180
CI6-BZ#153	160
CI7-BZ#170/#190 ¹	22
CI7-BZ#180	35
CI7-BZ#182/#187 ¹	23
CI8-BZ#195	3.9
CI9-BZ#206	3.9
CI10-BZ#209	2.3

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
CI3-BZ#19-C13	88	50-125
CI8-BZ#202-C13	88	50-125

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **316 0-1**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610189**
 Lab ID: **0610189-03**
 Associated Blank: **SS111506B09**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
10/25/06	10/27/06	11/15/06	11/29/06	62.0	5.68	2	1	TLW

Parameter	Result
CI2-BZ#5/#8 ¹	34
CI3-BZ#18	70
CI3-BZ#28/#31 ¹	400
CI4-BZ#44	110
CI4-BZ#52	210
CI4-BZ#43/#49 ¹	240
CI4-BZ#66	200
CI5-BZ#101/#84 ¹	410
CI5-BZ#87	100
CI7-BZ#184	0.28 U
CI5-BZ#105	100
CI5-BZ#118	340 E
CI7-BZ#183	15
CI6-BZ#167/#128 ¹	62
CI6-BZ#138/#163 ¹	260
CI6-BZ#153	260 E
CI7-BZ#170/#190 ¹	31
CI7-BZ#180	51
CI7-BZ#182/#187 ¹	35
CI8-BZ#195	4.6
CI9-BZ#206	4.9
CI10-BZ#209	2.4

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
CI3-BZ#19-C13	74	50-125
CI8-BZ#202-C13	78	50-125

N/A - Not Applicable

E - Estimated value, exceeds the upper limit of calibration.

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **316 0-1**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610189**
 Lab ID: **0610189-03E**
 Associated Blank: **SS111506B09**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
10/25/06	10/27/06	11/15/06	11/29/06	62.0	5.68	2	5	TLW

Parameter	Result
Cl2-BZ#5/#8 ¹	38
Cl3-BZ#18	76
Cl3-BZ#28/#31 ¹	410
Cl4-BZ#44	120
Cl4-BZ#52	220
Cl4-BZ#43/#49 ¹	260
Cl4-BZ#66	210
Cl5-BZ#101/#84 ¹	440
Cl5-BZ#87	110
Cl7-BZ#184	1.4 U
Cl5-BZ#105	110
Cl5-BZ#118	360
Cl7-BZ#183	16
Cl6-BZ#167/#128 ¹	70
Cl6-BZ#138/#163 ¹	290
Cl6-BZ#153	280
Cl7-BZ#170/#190 ¹	34
Cl7-BZ#180	56
Cl7-BZ#182/#187 ¹	39
Cl8-BZ#195	4.9
Cl9-BZ#206	5.4
Cl10-BZ#209	2.9

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
Cl3-BZ#19-Cl3	86	50-125
Cl8-BZ#202-Cl3	94	50-125

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: **Apex Environmental, Inc.**

Project: **New Bedford Harbor**

Client ID: **319 0-1**

Case: **N/A** SDG: **N/A**

Matrix: **Sediment**

Lab Code: **MA00030**

ETR: **0610189**

Lab ID: **0610189-04**

Associated Blank: **SS111506B09**

Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
10/23/06	10/27/06	11/15/06	11/29/06	76.8	5.60	2	1	TLW

Parameter	Result
CI2-BZ#5/#8 ¹	7.4
CI3-BZ#18	13
CI3-BZ#28/#31 ¹	64
CI4-BZ#44	19
CI4-BZ#52	37
CI4-BZ#43/#49 ¹	39
CI4-BZ#66	29
CI5-BZ#101/#84 ¹	50
CI5-BZ#87	12
CI7-BZ#184	0.23 U
CI5-BZ#105	12
CI5-BZ#118	38
CI7-BZ#183	1.7
CI6-BZ#167/#128 ¹	6.8
CI6-BZ#138/#163 ¹	28
CI6-BZ#153	29
CI7-BZ#170/#190 ¹	2.9
CI7-BZ#180	4.7
CI7-BZ#182/#187 ¹	3.6
CI8-BZ#195	0.23 U
CI9-BZ#206	0.49
CI10-BZ#209	0.48

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
CI3-BZ#19-C13	76	50-125
CI8-BZ#202-C13	82	50-125

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **321 0-1**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610189**
 Lab ID: **0610189-05**
 Associated Blank: **SS111506B09**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
10/25/06	10/27/06	11/15/06	11/29/06	63.7	5.55	2	1	TLW

Parameter	Result
Cl2-BZ#5/#8 ¹	24
Cl3-BZ#18	68
Cl3-BZ#28/#31 ¹	270
Cl4-BZ#44	82
Cl4-BZ#52	120
Cl4-BZ#43/#49 ¹	110
Cl4-BZ#66	140
Cl5-BZ#101/#84 ¹	170
Cl5-BZ#87	45
Cl7-BZ#184	0.28 U
Cl5-BZ#105	46
Cl5-BZ#118	97
Cl7-BZ#183	43
Cl6-BZ#167/#128 ¹	22
Cl6-BZ#138/#163 ¹	180
Cl6-BZ#153	180
Cl7-BZ#170/#190 ¹	77
Cl7-BZ#180	170
Cl7-BZ#182/#187 ¹	96
Cl8-BZ#195	18
Cl9-BZ#206	8.8
Cl10-BZ#209	0.36

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
Cl3-BZ#19-C13	84	50-125
Cl8-BZ#202-C13	88	50-125

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **325 0-1**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610189**
 Lab ID: **0610189-06**
 Associated Blank: **SS111506B09**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
10/25/06	10/27/06	11/15/06	11/29/06	46.5	5.88	2	1	TLW

Parameter	Result
Cl2-BZ#5/#8 ¹	73
Cl3-BZ#18	150
Cl3-BZ#28/#31 ¹	720 E
Cl4-BZ#44	220
Cl4-BZ#52	370 E
Cl4-BZ#43/#49 ¹	320
Cl4-BZ#66	350 E
Cl5-BZ#101/#84 ¹	940 E
Cl5-BZ#87	280
Cl7-BZ#184	0.37 U
Cl5-BZ#105	250
Cl5-BZ#118	620 E
Cl7-BZ#183	120
Cl6-BZ#167/#128 ¹	150
Cl6-BZ#138/#163 ¹	810 E
Cl6-BZ#153	870 E
Cl7-BZ#170/#190 ¹	210
Cl7-BZ#180	440 E
Cl7-BZ#182/#187 ¹	300
Cl8-BZ#195	42
Cl9-BZ#206	33
Cl10-BZ#209	9.4

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
Cl3-BZ#19-C13	78	50-125
Cl8-BZ#202-C13	80	50-125

N/A - Not Applicable

E - Estimated value, exceeds the upper limit of calibration.

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **325 0-1**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610189**
 Lab ID: **0610189-06E**
 Associated Blank: **SS111506B09**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
10/25/06	10/27/06	11/15/06	11/29/06	46.5	5.88	2	10	TLW

Parameter	Result
Cl2-BZ#5/#8 ¹	80
Cl3-BZ#18	160
Cl3-BZ#28/#31 ¹	780
Cl4-BZ#44	260
Cl4-BZ#52	400
Cl4-BZ#43/#49 ¹	340
Cl4-BZ#66	380
Cl5-BZ#101/#84 ¹	1000
Cl5-BZ#87	310
Cl7-BZ#184	3.7 U
Cl5-BZ#105	270
Cl5-BZ#118	650
Cl7-BZ#183	130
Cl6-BZ#167/#128 ¹	160
Cl6-BZ#138/#163 ¹	870
Cl6-BZ#153	940
Cl7-BZ#170/#190 ¹	220
Cl7-BZ#180	470
Cl7-BZ#182/#187 ¹	340
Cl8-BZ#195	48
Cl9-BZ#206	34
Cl10-BZ#209	13

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
Cl3-BZ#19-C13	96	50-125
Cl8-BZ#202-C13	95	50-125

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **327 0-1**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610189**
 Lab ID: **0610189-07**
 Associated Blank: **SS111506B09**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
10/25/06	10/27/06	11/15/06	11/29/06	36.6	5.67	2	1	TLW

Parameter	Result
CI2-BZ#5/#8 ¹	100
CI3-BZ#18	180
CI3-BZ#28/#31 ¹	1000 E
CI4-BZ#44	280
CI4-BZ#52	490 E
CI4-BZ#43/#49 ¹	540
CI4-BZ#66	510 E
CI5-BZ#101/#84 ¹	810 E
CI5-BZ#87	190
CI7-BZ#184	0.48 U
CI5-BZ#105	210
CI5-BZ#118	650 E
CI7-BZ#183	57
CI6-BZ#167/#128 ¹	120
CI6-BZ#138/#163 ¹	560
CI6-BZ#153	610 E
CI7-BZ#170/#190 ¹	110
CI7-BZ#180	210
CI7-BZ#182/#187 ¹	140
CI8-BZ#195	21
CI9-BZ#206	16
CI10-BZ#209	4.9

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
CI3-BZ#19-C13	73	50-125
CI8-BZ#202-C13	75	50-125

N/A - Not Applicable

E - Estimated value, exceeds the upper limit of calibration.

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **327 0-1**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610189**
 Lab ID: **0610189-07E**
 Associated Blank: **SS111506B09**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
10/25/06	10/27/06	11/15/06	11/29/06	36.6	5.67	2	5	TLW

Parameter	Result
CI2-BZ#5/#8 ¹	120
CI3-BZ#18	200
CI3-BZ#28/#31 ¹	1100
CI4-BZ#44	310
CI4-BZ#52	520
CI4-BZ#43/#49 ¹	570
CI4-BZ#66	540
CI5-BZ#101/#84 ¹	880
CI5-BZ#87	200
CI7-BZ#184	2.4 U
CI5-BZ#105	230
CI5-BZ#118	700
CI7-BZ#183	63
CI6-BZ#167/#128 ¹	140
CI6-BZ#138/#163 ¹	610
CI6-BZ#153	660
CI7-BZ#170/#190 ¹	110
CI7-BZ#180	220
CI7-BZ#182/#187 ¹	160
CI8-BZ#195	26
CI9-BZ#206	18
CI10-BZ#209	7.0

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
CI3-BZ#19-C13	85	50-125
CI8-BZ#202-C13	86	50-125

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: Apex Environmental, Inc.
Project: New Bedford Harbor
Client ID: 328 0-1
Case: N/A **SDG:** N/A
Matrix: Sediment

Lab Code: MA00030
ETR: 0610189
Lab ID: 0610189-08
Associated Blank: SS111506B09
Concentration Units: µg/Kg

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
10/25/06	10/27/06	11/15/06	11/29/06	32.1	5.20	2	1	TLW

Parameter	Result
CI2-BZ#5/#8 ¹	70
CI3-BZ#18	130
CI3-BZ#28/#31 ¹	720
CI4-BZ#44	170
CI4-BZ#52	330
CI4-BZ#43/#49 ¹	410
CI4-BZ#66	300
CI5-BZ#101/#84 ¹	530
CI5-BZ#87	96
CI7-BZ#184	0.60 U
CI5-BZ#105	120
CI5-BZ#118	430
CI7-BZ#183	47
CI6-BZ#167/#128 ¹	80
CI6-BZ#138/#163 ¹	390
CI6-BZ#153	450
CI7-BZ#170/#190 ¹	82
CI7-BZ#180	170
CI7-BZ#182/#187 ¹	120
CI8-BZ#195	18
CI9-BZ#206	13
CI10-BZ#209	4.3

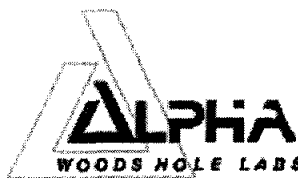
¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
CI3-BZ#19-C13	74	50-125
CI8-BZ#202-C13	79	50-125

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **331 0-1**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610189**
 Lab ID: **0610189-09**
 Associated Blank: **SS111506B09**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
10/25/06	10/27/06	11/15/06	11/29/06	57.0	5.29	2	1	TLW

Parameter	Result
Cl2-BZ#5/#8 ¹	1.5
Cl3-BZ#18	2.7
Cl3-BZ#28/#31 ¹	14
Cl4-BZ#44	4.0
Cl4-BZ#52	7.6
Cl4-BZ#43/#49 ¹	8.7
Cl4-BZ#66	6.0
Cl5-BZ#101/#84 ¹	12
Cl5-BZ#87	2.3
Cl7-BZ#184	0.33 U
Cl5-BZ#105	2.7
Cl5-BZ#118	9.2
Cl7-BZ#183	1.6
Cl6-BZ#167/#128 ¹	3.0
Cl6-BZ#138/#163 ¹	8.4
Cl6-BZ#153	10
Cl7-BZ#170/#190 ¹	1.7
Cl7-BZ#180	3.9
Cl7-BZ#182/#187 ¹	2.8
Cl8-BZ#195	0.33 U
Cl9-BZ#206	0.33 U
Cl10-BZ#209	0.33 U

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
Cl3-BZ#19-C13	82	50-125
Cl8-BZ#202-C13	76	50-125

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **333 0-1**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610189**
 Lab ID: **0610189-10**
 Associated Blank: **SS111506B09**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
10/24/06	10/27/06	11/15/06	11/29/06	54.3	5.78	2	1	TLW

Parameter	Result
CI2-BZ#5/#8 ¹	220
CI3-BZ#18	610 E
CI3-BZ#28/#31 ¹	2400 E
CI4-BZ#44	590 E
CI4-BZ#52	880 E
CI4-BZ#43/#49 ¹	900 E
CI4-BZ#66	910 E
CI5-BZ#101/#84 ¹	1100 E
CI5-BZ#87	400 E
CI7-BZ#184	0.32 U
CI5-BZ#105	360 E
CI5-BZ#118	840 E
CI7-BZ#183	28
CI6-BZ#167/#128 ¹	150
CI6-BZ#138/#163 ¹	640 E
CI6-BZ#153	500 E
CI7-BZ#170/#190 ¹	61
CI7-BZ#180	94
CI7-BZ#182/#187 ¹	56
CI8-BZ#195	5.6
CI9-BZ#206	8.3
CI10-BZ#209	2.9

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
CI3-BZ#19-C13	80	50-125
CI8-BZ#202-C13	82	50-125

N/A - Not Applicable

E - Estimated value, exceeds the upper limit of calibration.

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **333 0-1**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610189**
 Lab ID: **0610189-10E**
 Associated Blank: **SS111506B09**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
10/24/06	10/27/06	11/15/06	11/29/06	54.3	5.78	2	10	TLW

Parameter	Result
Cl2-BZ#5/#8 ¹	190
Cl3-BZ#18	560
Cl3-BZ#28/#31 ¹	2200
Cl4-BZ#44	570
Cl4-BZ#52	840
Cl4-BZ#43/#49 ¹	850
Cl4-BZ#66	850
Cl5-BZ#101/#84 ¹	1100
Cl5-BZ#87	380
Cl7-BZ#184	3.2 U
Cl5-BZ#105	350
Cl5-BZ#118	790
Cl7-BZ#183	32
Cl6-BZ#167/#128 ¹	150
Cl6-BZ#138/#163 ¹	620
Cl6-BZ#153	490
Cl7-BZ#170/#190 ¹	64
Cl7-BZ#180	94
Cl7-BZ#182/#187 ¹	64
Cl8-BZ#195	7.2
Cl9-BZ#206	8.7
Cl10-BZ#209	4.4

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
Cl3-BZ#19-C13	91	50-125
Cl8-BZ#202-C13	97	50-125

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **334 0-1**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610189**
 Lab ID: **0610189-11**
 Associated Blank: **SS111506B09**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
10/24/06	10/27/06	11/15/06	11/29/06	50.7	5.40	2	1	TLW

Parameter	Result
CI2-BZ#5/#8 ¹	40
CI3-BZ#18	93
CI3-BZ#28/#31 ¹	550
CI4-BZ#44	120
CI4-BZ#52	280
CI4-BZ#43/#49 ¹	310
CI4-BZ#66	220
CI5-BZ#101/#84 ¹	360
CI5-BZ#87	85
CI7-BZ#184	0.36 U
CI5-BZ#105	87
CI5-BZ#118	290
CI7-BZ#183	11
CI6-BZ#167/#128 ¹	50
CI6-BZ#138/#163 ¹	210
CI6-BZ#153	220
CI7-BZ#170/#190 ¹	20
CI7-BZ#180	33
CI7-BZ#182/#187 ¹	25
CI8-BZ#195	2.5
CI9-BZ#206	3.6
CI10-BZ#209	1.8

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
CI3-BZ#19-C13	78	50-125
CI8-BZ#202-C13	81	50-125

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **335 0-1**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610189**
 Lab ID: **0610189-12**
 Associated Blank: **SS111506B09**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
10/24/06	10/27/06	11/15/06	11/29/06	64.3	5.39	2	1	TLW

Parameter	Result
CI2-BZ#5/#8 ¹	57
CI3-BZ#18	160
CI3-BZ#28/#31 ¹	640 E
CI4-BZ#44	190
CI4-BZ#52	370 E
CI4-BZ#43/#49 ¹	320
CI4-BZ#66	270 E
CI5-BZ#101/#84 ¹	580 E
CI5-BZ#87	180
CI7-BZ#184	0.29 U
CI5-BZ#105	160
CI5-BZ#118	440 E
CI7-BZ#183	15
CI6-BZ#167/#128 ¹	84
CI6-BZ#138/#163 ¹	340
CI6-BZ#153	290 E
CI7-BZ#170/#190 ¹	31
CI7-BZ#180	50
CI7-BZ#182/#187 ¹	31
CI8-BZ#195	3.5
CI9-BZ#206	4.6
CI10-BZ#209	2.2

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
CI3-BZ#19-C13	75	50-125
CI8-BZ#202-C13	85	50-125

N/A - Not Applicable

E - Estimated value, exceeds the upper limit of calibration.

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **335 0-1**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610189**
 Lab ID: **0610189-12E**
 Associated Blank: **SS111506B09**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
10/24/06	10/27/06	11/15/06	11/29/06	64.3	5.39	2	5	TLW

Parameter	Result
CI2-BZ#5/#8 ¹	53
CI3-BZ#18	150
CI3-BZ#28/#31 ¹	600
CI4-BZ#44	180
CI4-BZ#52	350
CI4-BZ#43/#49 ¹	300
CI4-BZ#66	260
CI5-BZ#101/#84 ¹	560
CI5-BZ#87	170
CI7-BZ#184	1.4 U
CI5-BZ#105	160
CI5-BZ#118	430
CI7-BZ#183	14
CI6-BZ#167/#128 ¹	81
CI6-BZ#138/#163 ¹	330
CI6-BZ#153	280
CI7-BZ#170/#190 ¹	33
CI7-BZ#180	50
CI7-BZ#182/#187 ¹	31
CI8-BZ#195	7.8
CI9-BZ#206	3.9
CI10-BZ#209	1.4 U

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
CI3-BZ#19-C13	81	50-125
CI8-BZ#202-C13	82	50-125

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **336 0-1**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610189**
 Lab ID: **0610189-13**
 Associated Blank: **SS111506B09**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
10/24/06	10/27/06	11/15/06	11/29/06	56.4	5.81	2	1	TLW

Parameter	Result
Cl2-BZ#5/#8 ¹	73
Cl3-BZ#18	170
Cl3-BZ#28/#31 ¹	800 E
Cl4-BZ#44	290 E
Cl4-BZ#52	640 E
Cl4-BZ#43/#49 ¹	510 E
Cl4-BZ#66	320 E
Cl5-BZ#101/#84 ¹	1000 E
Cl5-BZ#87	350 E
Cl7-BZ#184	0.31 U
Cl5-BZ#105	310 E
Cl5-BZ#118	820 E
Cl7-BZ#183	28
Cl6-BZ#167/#128 ¹	170
Cl6-BZ#138/#163 ¹	700 E
Cl6-BZ#153	540 E
Cl7-BZ#170/#190 ¹	65
Cl7-BZ#180	92
Cl7-BZ#182/#187 ¹	51
Cl8-BZ#195	6.5
Cl9-BZ#206	6.8
Cl10-BZ#209	4.3

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
Cl3-BZ#19-C13	75	50-125
Cl8-BZ#202-C13	81	50-125

N/A - Not Applicable

E - Estimated value, exceeds the upper limit of calibration.

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: **Apex Environmental, Inc.**

Project: **New Bedford Harbor**

Client ID: **336 0-1**

Case: **N/A** SDG: **N/A**

Matrix: **Sediment**

Lab Code: **MA00030**

ETR: **0610189**

Lab ID: **0610189-13E**

Associated Blank: **SS111506B09**

Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
10/24/06	10/27/06	11/15/06	11/30/06	56.4	5.81	2	10	TLW

Parameter	Result
CI2-BZ#5/#8 ¹	71
CI3-BZ#18	160
CI3-BZ#28/#31 ¹	760
CI4-BZ#44	300
CI4-BZ#52	630
CI4-BZ#43/#49 ¹	500
CI4-BZ#66	320
CI5-BZ#101/#84 ¹	1100
CI5-BZ#87	360
CI7-BZ#184	3.0 U
CI5-BZ#105	320
CI5-BZ#118	820
CI7-BZ#183	30
CI6-BZ#167/#128 ¹	180
CI6-BZ#138/#163 ¹	710
CI6-BZ#153	560
CI7-BZ#170/#190 ¹	66
CI7-BZ#180	97
CI7-BZ#182/#187 ¹	55
CI8-BZ#195	9.2
CI9-BZ#206	7.9
CI10-BZ#209	3.0 U

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
CI3-BZ#19-C13	96	50-125
CI8-BZ#202-C13	92	50-125

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **337 0-1**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610189**
 Lab ID: **0610189-14**
 Associated Blank: **SS111506B09**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
10/24/06	10/27/06	11/15/06	11/29/06	41.0	5.72	2	1	TLW

Parameter	Result
Cl2-BZ#5/#8 ¹	600
Cl3-BZ#18	1500 E
Cl3-BZ#28/#31 ¹	7900 E
Cl4-BZ#44	1800 E
Cl4-BZ#52	2400 E
Cl4-BZ#43/#49 ¹	2900 E
Cl4-BZ#66	3500 E
Cl5-BZ#101/#84 ¹	3400 E
Cl5-BZ#87	1200 E
Cl7-BZ#184	0.43 U
Cl5-BZ#105	1200 E
Cl5-BZ#118	2700 E
Cl7-BZ#183	89
Cl6-BZ#167/#128 ¹	460
Cl6-BZ#138/#163 ¹	1900 E
Cl6-BZ#153	1500 E
Cl7-BZ#170/#190 ¹	210
Cl7-BZ#180	310
Cl7-BZ#182/#187 ¹	180
Cl8-BZ#195	24
Cl9-BZ#206	25
Cl10-BZ#209	6.3

¹ = These two Congeners are reported as a co-eluting pair.

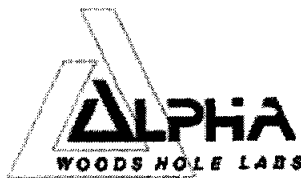
Surrogate	% Recovery	Acceptance Range (%)
Cl3-BZ#19-C13	79	50-125
Cl8-BZ#202-C13	83	50-125

N/A - Not Applicable

E - Estimated value, exceeds the upper limit of calibration.

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **337 0-1**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610189**
 Lab ID: **0610189-14E**
 Associated Blank: **SS111506B09**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
10/24/06	10/27/06	11/15/06	11/30/06	41.0	5.72	2	20	TLW

Parameter	Result
CI2-BZ#5/#8 ¹	680
CI3-BZ#18	1700
CI3-BZ#28/#31 ¹	9300
CI4-BZ#44	2100
CI4-BZ#52	2900
CI4-BZ#43/#49 ¹	3400
CI4-BZ#66	4000
CI5-BZ#101/#84 ¹	4000
CI5-BZ#87	1300
CI7-BZ#184	8.5 U
CI5-BZ#105	1200
CI5-BZ#118	2900
CI7-BZ#183	96
CI6-BZ#167/#128 ¹	480
CI6-BZ#138/#163 ¹	2000
CI6-BZ#153	1600
CI7-BZ#170/#190 ¹	220
CI7-BZ#180	330
CI7-BZ#182/#187 ¹	210
CI8-BZ#195	30
CI9-BZ#206	28
CI10-BZ#209	8.5 U

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
CI3-BZ#19-C13	96	50-125
CI8-BZ#202-C13	101	50-125

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

Blank PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **Blank**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610189**
 Lab ID: **SS111506B09**
 Associated Blank: **N/A**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	11/15/06	11/29/06	100	5.00	2	1	TLW

Parameter	Result
Cl2-BZ#5/#8 ¹	0.40 U
Cl3-BZ#18	0.20 U
Cl3-BZ#28/#31 ¹	0.40 U
Cl4-BZ#44	0.20 U
Cl4-BZ#52	0.20 U
Cl4-BZ#43/#49 ¹	0.40 U
Cl4-BZ#66	0.20 U
Cl5-BZ#101/#84 ¹	0.40 U
Cl5-BZ#87	0.20 U
Cl7-BZ#184	0.20 U
Cl5-BZ#105	0.20 U
Cl5-BZ#118	0.20 U
Cl7-BZ#183	0.20 U
Cl6-BZ#167/#128 ¹	0.40 U
Cl6-BZ#138/#163 ¹	0.40 U
Cl6-BZ#153	0.20 U
Cl7-BZ#170/#190 ¹	0.40 U
Cl7-BZ#180	0.20 U
Cl7-BZ#182/#187 ¹	0.40 U
Cl8-BZ#195	0.20 U
Cl9-BZ#206	0.20 U
Cl10-BZ#209	0.20 U

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
Cl3-BZ#19-C13	86	50-125
Cl8-BZ#202-C13	90	50-125

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

Laboratory Control Summary PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **Laboratory Control Sample**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610189**
 Lab ID: **See Below**
 Associated Blank: **SS111506B09**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Percent Solid	Analyst
N/A	N/A	11/15/06	100	TLW

Lab ID: SS111506B09 SS111506LCS06 SS111506LCSD06

Parameter	Blank Conc.		LCS Conc.	% Recovery	LCSD Conc.	% Recovery	% RPD	RPD % Recovery Limit	Limits
CI2-BZ#5/#8 ¹	0.40	U	4.8	60	4.5	56	6	50	40-140
CI3-BZ#18	0.20	U	5.0	62	5.0	62	0	50	40-140
CI3-BZ#28/#31 ¹	0.40	U	9.9	62	9.5	59	4	50	40-140
CI4-BZ#44	0.20	U	4.9	61	4.9	61	1	50	40-140
CI4-BZ#52	0.20	U	5.0	62	4.9	61	1	50	40-140
CI4-BZ#43/#49 ¹	0.40	U	5.5	69	5.8	72	5	50	40-140
CI4-BZ#66	0.20	U	5.7	71	5.5	68	4	50	40-140
CI5-BZ#101/#84 ¹	0.40	U	5.8	72	6.0	74	3	50	40-140
CI5-BZ#87	0.20	U	5.0	62	5.0	63	1	50	40-140
CI5-BZ#105	0.20	U	5.7	71	5.8	72	1	50	40-140
CI5-BZ#118	0.20	U	5.4	67	5.3	67	0	50	40-140
CI7-BZ#183	0.20	U	5.9	74	6.2	77	5	50	40-140
CI6-BZ#167/#128 ¹	0.40	U	12	72	13	80	11	50	40-140
CI6-BZ#138/#163 ¹	0.40	U	5.1	64	5.3	66	3	50	40-140
CI6-BZ#153	0.20	U	5.9	73	6.1	76	3	50	40-140
CI7-BZ#170/#190 ¹	0.40	U	5.1	63	5.6	70	10	50	40-140
CI7-BZ#180	0.20	U	5.6	70	6.3	79	12	50	40-140
CI7-BZ#182/#187 ¹	0.40	U	6.3	78	6.7	84	7	50	40-140
CI8-BZ#195	0.20	U	5.7	72	6.3	78	9	50	40-140
CI9-BZ#206	0.20	U	6.0	74	6.6	82	10	50	40-140
CI10-BZ#209	0.20	U	6.0	76	6.5	82	8	50	40-140

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery		Acceptance Range (%)
CI3-BZ#19-C13	75	73	50-125
CI8-BZ#202-C13	73	81	50-125

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded result.

12/01/06 14:59

EXTRACTABLE PETROLEUM HYDROCARBONS (EPH)

Extractable Petroleum Hydrocarbons by GC/FID



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **325 0-1**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610189**
 Lab ID: **0610189-06**
 Associated Blank: **ES111506B10**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Percent Solid	Sample Amount (g)	Fraction	Date Analyzed	Final Volume (ml)	Dilution Factor	Analyst
10/25/06	10/27/06	11/15/06	46.5	10.70	Aromatic	11/22/06	1	1	JBS
					Aliphatic	11/22/06	1	1	JBS

Parameter	Result
C ₉ -C ₁₈ Aliphatics ¹	880000
C ₁₉ -C ₃₆ Aliphatics ¹	2200000
C ₁₁ -C ₂₂ Aromatics ^{1,2}	1000000
Unadjusted C ₁₁ -C ₂₂ Aromatics ¹	1100000

Naphthalene	1000 U
2-Methylnaphthalene	1000 U
Acenaphthylene	1000 U
Acenaphthene	1000 U
Fluorene	1000 U
Phenanthrene	2400
Anthracene	1200
Fluoranthene	8500
Pyrene	10000
Benzo(a)anthracene	5700
Chrysene	5200
Benzo(b)fluoranthene	5600
Benzo(k)fluoranthene	2400
Benzo(a)pyrene	4100
Indeno(1,2,3-cd)pyrene ³	3700
Dibenzo(a,h)anthracene ³	3700
Benzo(g,h,i)perylene	2800

¹ = Range concentration excludes the concentration of any surrogate(s) and/or internal standards eluting in that range.

² = C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes.

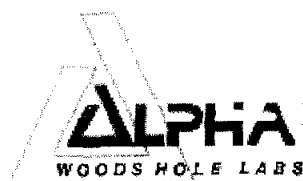
³ = Values reported reflect their sum.

Extraction Surrogate	% Recovery	Acceptance Range (%)
5-alpha Androstane	68	40-140
ortho-Terphenyl	66	40-140
Fractionation Surrogate		
Biphenyl	92	40-140
2-Fluorobiphenyl	88	40-140

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

Extractable Petroleum Hydrocarbons by GC/FID



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **327 0-1**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610189**
 Lab ID: **0610189-07**
 Associated Blank: **ES111506B10**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Percent Solid	Sample Amount (g)	Fraction	Date Analyzed	Final Volume (ml)	Dilution Factor	Analyst
10/25/06	10/27/06	11/15/06	36.6	10.83	Aromatic	11/27/06	1	1	JBS
					Aliphatic	11/27/06	1	1	JBS

Parameter	Result
C ₉ -C ₁₈ Aliphatics ¹	1100000
C ₁₉ -C ₃₆ Aliphatics ¹	2300000
C ₁₁ -C ₂₂ Aromatics ^{1,2}	1000000
Unadjusted C ₁₁ -C ₂₂ Aromatics ¹	1000000

Naphthalene	1300	U
2-Methylnaphthalene	1300	U
Acenaphthylene	2100	
Acenaphthene	1300	U
Fluorene	1300	
Phenanthrene	1500	
Anthracene	1300	U
Fluoranthene	3900	
Pyrene	4800	
Benzo(a)anthracene	1700	
Chrysene	1700	
Benzo(b)fluoranthene	2400	
Benzo(k)fluoranthene	1300	U
Benzo(a)pyrene	1700	
Indeno(1,2,3-cd)pyrene ³	2500	U
Dibenzo(a,h)anthracene ³	2500	U
Benzo(g,h,i)perylene	1300	U

¹ = Range concentration excludes the concentration of any surrogate(s) and/or internal standards eluting in that range.

² = C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes.

³ = Values reported reflect their sum.

Extraction Surrogate	% Recovery	Acceptance Range (%)
5-alpha Androstane	73	40-140
ortho-Terphenyl	84	40-140
Fractionation Surrogate		
Biphenyl	94	40-140
2-Fluorobiphenyl	89	40-140

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

Extractable Petroleum Hydrocarbons by GC/FID



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **333 0-1**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610189**
 Lab ID: **0610189-10**
 Associated Blank: **ES111506B10**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Percent Solid	Sample Amount (g)	Fraction	Date Analyzed	Final Volume (ml)	Dilution Factor	Analyst
10/24/06	10/27/06	11/15/06	54.3	10.17	Aromatic	11/27/06	1	1	JBS
					Aliphatic	11/27/06	1	1	JBS

Parameter	Result
C ₉ -C ₁₈ Aliphatics ¹	200000
C ₁₉ -C ₃₆ Aliphatics ¹	830000
C ₁₁ -C ₂₂ Aromatics ^{1,2}	320000
Unadjusted C ₁₁ -C ₂₂ Aromatics ¹	330000

Naphthalene	910 U
2-Methylnaphthalene	910 U
Acenaphthylene	910 U
Acenaphthene	910 U
Fluorene	910 U
Phenanthrene	910 U
Anthracene	910 U
Fluoranthene	1800
Pyrene	2700
Benzo(a)anthracene	1400
Chrysene	1200
Benzo(b)fluoranthene	1600
Benzo(k)fluoranthene	910 U
Benzo(a)pyrene	1300
Indeno(1,2,3-cd)pyrene ³	1800 U
Dibenzo(a,h)anthracene ³	1800 U
Benzo(g,h,i)perylene	910 U

¹ = Range concentration excludes the concentration of any surrogate(s) and/or internal standards eluting in that range.

² = C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes.

³ = Values reported reflect their sum.

Extraction Surrogate	% Recovery	Acceptance Range (%)
5-alpha Androstane	71	40-140
ortho-Terphenyl	76	40-140
Fractionation Surrogate		
Biphenyl	89	40-140
2-Fluorobiphenyl	85	40-140

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

Extractable Petroleum Hydrocarbons by GC/FID



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **335 0-1**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610189**
 Lab ID: **0610189-12**
 Associated Blank: **ES111506B10**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Percent Solid	Sample Amount (g)	Fraction	Date Analyzed	Final Volume (ml)	Dilution Factor	Analyst
10/24/06	10/27/06	11/15/06	64.3	10.54	Aromatic	11/22/06	1	1	JBS
					Aliphatic	11/22/06	1	1	JBS

Parameter	Result
C ₉ -C ₁₈ Aliphatics ¹	150000
C ₁₉ -C ₃₆ Aliphatics ¹	650000
C ₁₁ -C ₂₂ Aromatics ^{1,2}	430000
Unadjusted C ₁₁ -C ₂₂ Aromatics ¹	520000

Naphthalene	800
2-Methylnaphthalene	740 U
Acenaphthylene	740 U
Acenaphthene	1500
Fluorene	2200
Phenanthrene	15000
Anthracene	4000
Fluoranthene	16000
Pyrene	16000
Benzo(a)anthracene	7400
Chrysene	7700
Benzo(b)fluoranthene	7900
Benzo(k)fluoranthene	2900
Benzo(a)pyrene	6000
Indeno(1,2,3-cd)pyrene ³	4600
Dibenzo(a,h)anthracene ³	4600
Benzo(g,h,i)perylene	3100

¹ = Range concentration excludes the concentration of any surrogate(s) and/or internal standards eluting in that range.

² = C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes.

³ = Values reported reflect their sum.

Extraction Surrogate	% Recovery	Acceptance Range (%)
5-alpha Androstane	72	40-140
ortho-Terphenyl	78	40-140
Fractionation Surrogate		
Biphenyl	86	40-140
2-Fluorobiphenyl	81	40-140

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

Extractable Petroleum Hydrocarbons by GC/FID



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **336 0-1**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610189**
 Lab ID: **0610189-13**
 Associated Blank: **ES111506B10**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Percent Solid	Sample Amount (g)	Fraction	Date Analyzed	Final Volume (ml)	Dilution Factor	Analyst
10/24/06	10/27/06	11/15/06	56.4	10.98	Aromatic	11/22/06	1	1	JBS
					Aliphatic	11/22/06	1	1	JBS

Parameter	Result
C ₉ -C ₁₈ Aliphatics ¹	120000
C ₁₉ -C ₃₆ Aliphatics ¹	870000
C ₁₁ -C ₂₂ Aromatics ^{1,2}	360000
Unadjusted C ₁₁ -C ₂₂ Aromatics ¹	380000

Naphthalene	810 U
2-Methylnaphthalene	810 U
Acenaphthylene	810 U
Acenaphthene	810 U
Fluorene	810 U
Phenanthrene	1600
Anthracene	810 U
Fluoranthene	3500
Pyrene	5400
Benzo(a)anthracene	2000
Chrysene	2400
Benzo(b)fluoranthene	2900
Benzo(k)fluoranthene	1100
Benzo(a)pyrene	1600
Indeno(1,2,3-cd)pyrene ³	1600 U
Dibenzo(a,h)anthracene ³	1600 U
Benzo(g,h,i)perylene	940

¹ = Range concentration excludes the concentration of any surrogate(s) and/or internal standards eluting in that range.

² = C₁₁-C₂₂ Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes.

³ = Values reported reflect their sum.

Extraction Surrogate	% Recovery	Acceptance Range (%)
5-alpha Androstane	72	40-140
ortho-Terphenyl	75	40-140
Fractionation Surrogate		
Biphenyl	81	40-140
2-Fluorobiphenyl	77	40-140

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

Blank Extractable Petroleum Hydrocarbons by GC/FID



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **Blank**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610189**
 Lab ID: **ES111506B10**
 Associated Blank: **N/A**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Percent Solid	Sample Amount (g)	Fraction	Date Analyzed	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	11/15/06	100	10.00	Aromatic	11/22/06	1	1	JBS
					Aliphatic	11/22/06	1	1	JBS

Parameter	Result
C ₉ -C ₁₈ Aliphatics ¹	3000 U
C ₁₉ -C ₃₆ Aliphatics ¹	4000 U
C ₁₁ -C ₂₂ Aromatics ^{1,2}	8500 U
Unadjusted C ₁₁ -C ₂₂ Aromatics ¹	8500 U
Naphthalene	500 U
2-Methylnaphthalene	500 U
Acenaphthylene	500 U
Acenaphthene	500 U
Fluorene	500 U
Phenanthrene	500 U
Anthracene	500 U
Fluoranthene	500 U
Pyrene	500 U
Benzo(a)anthracene	500 U
Chrysene	500 U
Benzo(b)fluoranthene	500 U
Benzo(k)fluoranthene	500 U
Benzo(a)pyrene	500 U
Indeno(1,2,3-cd)pyrene ³	1000 U
Dibenzo(a,h)anthracene ³	1000 U
Benzo(g,h,i)perylene	500 U

¹ = Range concentration excludes the concentration of any surrogate(s) and/or internal standards eluting in that range.

² = C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes.

³ = Values reported reflect their sum.

Extraction Surrogate	% Recovery	Acceptance Range (%)
5-alpha Androstane	70	40-140
ortho-Terphenyl	74	40-140
Fractionation Surrogate		
Biphenyl	88	40-140
2-Fluorobiphenyl	86	40-140

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

Laboratory Control Summary

Extractable Petroleum Hydrocarbons by GC/FID



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **Laboratory Control Sample**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610189**
 Lab ID: **See Below**
 Associated Blank: **ES111506B10**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Percent Solid	Analyst
N/A	N/A	11/15/06	100	JBS

Lab ID: ES111506B10 ES111506LCS07 ES111506LCSD07

Parameter	Blank Conc.		LCS Conc.	% Recovery	LCSD Conc.	% Recovery	% RPD	RPD Limit	% Recovery Limits
Naphthalene	500	U	5800	58	5700	57	2	25	40-140
2-Methylnaphthalene	500	U	6300	63	6200	62	2	25	40-140
Acenaphthylene	500	U	6800	68	6700	67	2	25	40-140
Acenaphthene	500	U	6900	69	6800	68	2	25	40-140
Fluorene	500	U	7400	75	7300	73	2	25	40-140
Phenanthrene	500	U	7700	77	7600	75	2	25	40-140
Anthracene	500	U	7600	76	7400	75	2	25	40-140
Fluoranthene	500	U	7600	76	7500	75	2	25	40-140
Pyrene	500	U	7900	79	7700	77	2	25	40-140
Benzo(a)anthracene	500	U	7800	78	7600	76	2	25	40-140
Chrysene	500	U	7900	79	7800	78	1	25	40-140
Benzo(b)fluoranthene	500	U	8000	80	7900	79	2	25	40-140
Benzo(k)fluoranthene	500	U	7800	78	7600	76	2	25	40-140
Benzo(a)pyrene	500	U	8100	81	8000	80	1	25	40-140
Indeno(1,2,3-cd)pyrene ¹	1000	U	16000	80	16000	79	1	25	40-140
Dibenzo(a,h)anthracene ¹	1000	U	16000	80	16000	79	1	25	40-140
Benzo(g,h,i)perylene	500	U	8100	81	8000	80	2	25	40-140
n-Nonane (C9)	500	U	3400	34	3600	36	6	25	30-140
n-Decane (C10)	500	U	4800	48	5100	51	6	25	40-140
n-Dodecane (C12)	500	U	5900	59	6300	63	7	25	40-140
n-Tetradecane (C14)	500	U	6800	68	7100	71	5	25	40-140
n-Hexadecane (C16)	500	U	7300	73	7600	76	3	25	40-140
n-Octadecane (C18)	500	U	7700	77	8000	80	3	25	40-140
n-Nonadecane (C19)	500	U	8000	80	8300	83	3	25	40-140
n-Eicosane (C20)	500	U	7900	79	8100	81	3	25	40-140
n-Docosane (C22)	500	U	7900	79	7900	79	0	25	40-140
n-Tetracosane (C24)	500	U	8000	80	8000	80	1	25	40-140
n-Hexacosane (C26)	500	U	7900	79	8000	80	1	25	40-140
n-Octacosane (C28)	500	U	7800	78	7800	78	0	25	40-140
n-Triacontane (C30)	500	U	7800	78	7800	78	0	25	40-140
n-Hexatriacontane (C36)	500	U	8400	84	8400	84	0	25	40-140

¹ = Range concentration excludes the concentration of any surrogate(s) and/or internal standards eluting in that range.

³ = Values reported reflect their sum.

Extraction Surrogate	% Recovery	Acceptance Range (%)
5-alpha Androstane	73 76	40-140
ortho-Terphenyl	78 76	40-140
Fractionation Surrogate		
Biphenyl	85 82	40-140
2-Fluorobiphenyl	82 80	40-140

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded result.

11/28/06 12:12

Laboratory Control Summary

Extractable Petroleum Hydrocarbons by GC/FID



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **Laboratory Control Sample**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0610189**
 Lab ID: **See Below**
 Associated Blank: **ES111506B10**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Percent Solid	Analyst
N/A	N/A	11/15/06	100	JBS

Aliphatic Breakthrough Criteria

Lab ID:	ES111506LCS07	ES111506LCSD07	
Parameter	LCS % Breakthrough	LCSD % Breakthrough	% Breakthrough Maximum Limit
Naphthalene	0.1	0.1	5
2-Methylnaphthalene	0.2	0.2	5

N/A - Not Applicable

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded result.

11/28/06 12:12

TOTAL METALS

Total Metals



Client: **Apex Environmental, Inc.**

Project: **New Bedford Harbor**

Case: **N/A** SDG: **N/A**

Client ID: **325 0-1**

Matrix: **Sediment**

Percent Solid: **46.5**

Lab Code: **MA00030**

ETR: **0610189**

Lab ID: **0610189-06**

Concentration Units: **mg/Kg**

Date Collected: **10/25/06**

Date Received: **10/27/06**

Parameter	Result	Qualifier	Reporting Limit	Dilution	Date Analyzed	Date Prepared	Analytical Method	Analyst
Arsenic	20		0.17	5	11/10/06	11/08/06	6020A	LCP
Barium	330		0.17	5	11/10/06	11/08/06	6020A	LCP
Cadmium	5.1		0.067	5	11/10/06	11/08/06	6020A	LCP
Chromium	200		1.7	5	11/10/06	11/08/06	6020A	LCP
Lead	3000		0.67	20	11/10/06	11/08/06	6020A	LCP
Mercury	7.3		0.20	20	11/09/06	11/08/06	7471A	LMR
Selenium	3.0		0.67	5	11/10/06	11/08/06	6020A	LCP
Silver	1.2		0.17	5	11/13/06	11/08/06	6020A	LMR

N/A - Not Applicable

Total Metals



Client: **Apex Environmental, Inc.**

Project: **New Bedford Harbor**

Case: **N/A** SDG: **N/A**

Client ID: **327 0-1**

Matrix: **Sediment**

Percent Solid: **36.6**

Lab Code: **MA00030**

ETR: **0610189**

Lab ID: **0610189-07**

Concentration Units: **mg/Kg**

Date Collected: **10/25/06**

Date Received: **10/27/06**

Parameter	Result	Qualifier	Reporting Limit	Dilution	Date Analyzed	Date Prepared	Analytical Method	Analyst
Arsenic	49		0.20	5	11/10/06	11/08/06	6020A	LCP
Barium	83		0.20	5	11/10/06	11/08/06	6020A	LCP
Cadmium	3.7		0.080	5	11/10/06	11/08/06	6020A	LCP
Chromium	270		2.0	5	11/10/06	11/08/06	6020A	LCP
Lead	360		0.20	5	11/10/06	11/08/06	6020A	LCP
Mercury	2.0		0.064	5	11/09/06	11/08/06	7471A	LMR
Selenium	3.5		0.80	5	11/10/06	11/08/06	6020A	LCP
Silver	2.9		0.20	5	11/13/06	11/08/06	6020A	LMR

N/A - Not Applicable

Total Metals



Client: **Apex Environmental, Inc.**

Project: **New Bedford Harbor**

Case: **N/A** SDG: **N/A**

Client ID: **333 0-1**

Matrix: **Sediment**

Percent Solid: **54.3**

Lab Code: **MA00030**

ETR: **0610189**

Lab ID: **0610189-10**

Concentration Units: **mg/Kg**

Date Collected: **10/24/06**

Date Received: **10/27/06**

Parameter	Result	Qualifier	Reporting Limit	Dilution	Date Analyzed	Date Prepared	Analytical Method	Analyst
Arsenic	12		0.14	5	11/10/06	11/08/06	6020A	LCP
Barium	59		0.14	5	11/10/06	11/08/06	6020A	LCP
Cadmium	7.7		0.058	5	11/10/06	11/08/06	6020A	LCP
Chromium	360		1.4	5	11/10/06	11/08/06	6020A	LCP
Lead	270		0.14	5	11/10/06	11/08/06	6020A	LCP
Mercury	1.3		0.045	5	11/09/06	11/08/06	7471A	LMR
Selenium	2.1		0.58	5	11/10/06	11/08/06	6020A	LCP
Silver	1.8		0.14	5	11/13/06	11/08/06	6020A	LMR

N/A - Not Applicable

Total Metals



Client: **Apex Environmental, Inc.**
Project: **New Bedford Harbor**
Case: **N/A** SDG: **N/A**
Client ID: **335 0-1**
Matrix: **Sediment**
Percent Solid: **64.3**

Lab Code: **MA00030**
ETR: **0610189**
Lab ID: **0610189-12**
Concentration Units: **mg/Kg**
Date Collected: **10/24/06**
Date Received: **10/27/06**

Parameter	Result	Qualifier	Reporting Limit	Dilution	Date Analyzed	Date Prepared	Analytical Method	Analyst
Arsenic	19		0.12	5	11/10/06	11/08/06	6020A	LCP
Barium	52		0.12	5	11/10/06	11/08/06	6020A	LCP
Cadmium	2.3		0.046	5	11/10/06	11/08/06	6020A	LCP
Chromium	94		1.2	5	11/10/06	11/08/06	6020A	LCP
Lead	340		0.12	5	11/10/06	11/08/06	6020A	LCP
Mercury	0.98		0.038	5	11/09/06	11/08/06	7471A	LMR
Selenium	1.4		0.46	5	11/10/06	11/08/06	6020A	LCP
Silver	0.66		0.11	5	11/13/06	11/08/06	6020A	LMR

N/A - Not Applicable

Total Metals



Client: **Apex Environmental, Inc.**

Project: **New Bedford Harbor**

Case: **N/A** SDG: **N/A**

Client ID: **336 0-1**

Matrix: **Sediment**

Percent Solid: **56.4**

Lab Code: **MA00030**

ETR: **0610189**

Lab ID: **0610189-13**

Concentration Units: **mg/Kg**

Date Collected: **10/24/06**

Date Received: **10/27/06**

Parameter	Result	Qualifier	Reporting Limit	Dilution	Date Analyzed	Date Prepared	Analytical Method	Analyst
Arsenic	13		0.13	5	11/10/06	11/08/06	6020A	LCP
Barium	59		0.13	5	11/10/06	11/08/06	6020A	LCP
Cadmium	2.6		0.051	5	11/10/06	11/08/06	6020A	LCP
Chromium	200		1.3	5	11/10/06	11/08/06	6020A	LCP
Lead	710		0.13	5	11/10/06	11/08/06	6020A	LCP
Mercury	1.3		0.043	5	11/09/06	11/08/06	7471A	LMR
Selenium	1.9		0.51	5	11/10/06	11/08/06	6020A	LCP
Silver	1.6		0.13	5	11/13/06	11/08/06	6020A	LMR

N/A - Not Applicable

Blank Total Metals



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Case: **N/A** SDG: **N/A**
 Client ID: **Blank**
 Matrix: **Sediment**
 Percent Solid: **100.0**

Lab Code: **MA00030**
 ETR: **0610189**
 Lab ID: **MS110606B06B**
 Concentration Units: **mg/Kg**
 Date Collected: **N/A**
 Date Received: **N/A**

Parameter	Result	Qualifier	Reporting Limit	Dilution	Date Analyzed	Date Prepared	Analytical Method	Analyst
Arsenic	0.12	U	0.12	5	11/10/06	11/08/06	6020A	LCP
Barium	0.12	U	0.12	5	11/10/06	11/08/06	6020A	LCP
Cadmium	0.050	U	0.050	5	11/10/06	11/08/06	6020A	LCP
Chromium	1.2	U	1.2	5	11/10/06	11/08/06	6020A	LCP
Lead	0.12	U	0.12	5	11/10/06	11/08/06	6020A	LCP
Selenium	0.50	U	0.50	5	11/10/06	11/08/06	6020A	LCP

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

Blank Total Metals



Client: **Apex Environmental, Inc.**

Project: **New Bedford Harbor**

Case: **N/A** SDG: **N/A**

Client ID: **Blank**

Matrix: **Sediment**

Percent Solid: **100.0**

Lab Code: **MA00030**

ETR: **0610189**

Lab ID: **MS110606B05B**

Concentration Units: **mg/Kg**

Date Collected: **N/A**

Date Received: **N/A**

Parameter	Result	Qualifier	Reporting Limit	Dilution	Date Analyzed	Date Prepared	Analytical Method	Analyst
Silver	0.12	U	0.12	5	11/13/06	11/08/06	6020A	LMR

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

Blank Total Metals



Client: **Apex Environmental, Inc.**

Project: **New Bedford Harbor**

Case: **N/A** SDG: **N/A**

Client ID: **Blank**

Matrix: **Sediment**

Percent Solid: **100.0**

Lab Code: **MA00030**

ETR: **0610189**

Lab ID: **MS110606B07B**

Concentration Units: **mg/Kg**

Date Collected: **N/A**

Date Received: **N/A**

Parameter	Result	Qualifier	Reporting Limit	Dilution	Date Analyzed	Date Prepared	Analytical Method	Analyst
Mercury	0.010	U	0.010	1	11/09/06	11/08/06	7471A	LMR

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

Laboratory Control Sample - High Total Metals



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Case: **N/A** SDG: **N/A**
 Client ID: **Lab Control Sample High**
 Matrix: **Sediment**
 Percent Solid: **100.0**

Lab Code: **MA00030**
 ETR: **0610189**
 Lab ID: **MS110606SLH03SLH**
 Concentration Units: **mg/Kg**
 Date Collected: **N/A**
 Date Received: **N/A**

Parameter	Conc.	% Recovery	% Recovery Limits
Arsenic	200	99	80-120
Barium	200	100	80-120
Cadmium	99	99	80-120
Chromium	200	100	80-120
Lead	190	96	80-120
Selenium	200	101	80-120

N/A - Not Applicable

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded results.

Laboratory Control Sample - Low Total Metals



Client: **Apex Environmental, Inc.**

Project: **New Bedford Harbor**

Case: **N/A** SDG: **N/A**

Client ID: **Lab Control Sample Low**

Matrix: **Sediment**

Percent Solid: **100.0**

Lab Code: **MA00030**

ETR: **0610189**

Lab ID: **MS110606SLL02SLL**

Concentration Units: **mg/Kg**

Date Collected: **N/A**

Date Received: **N/A**

Parameter	Conc.	% Recovery	% Recovery Limits
Silver	2.2	108	80-120

N/A - Not Applicable

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded results.

Laboratory Control Sample Total Metals



Client: **Apex Environmental, Inc.**
Project: **New Bedford Harbor**
Case: **N/A** SDG: **N/A**
Client ID: **Laboratory Control Sample**
Matrix: **Sediment**
Percent Solid: **100.0**

Lab Code: **MA00030**
ETR: **0610189**
Lab ID: **MS110606SLC02SLC**
Concentration Units: **mg/Kg**
Date Collected: **N/A**
Date Received: **N/A**

Parameter	Conc.	% Recovery	% Recovery Limits
Mercury	0.48	97	80-120

N/A - Not Applicable

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded results.

WET CHEMISTRY

Inorganics



Client: **Apex Environmental, Inc.**

Project: **New Bedford Harbor**

Case: **N/A** SDG: **N/A**

Client ID: **325 0-1**

Matrix: **Sediment**

Percent Solid: **46.5**

Lab Code: **MA00030**

ETR: **0610189**

Lab ID: **0610189-06**

Date Collected: **10/25/06**

Date Received: **10/27/06**

Parameter	Result	Qualifier	Reporting Limit	Dilution	Date Analyzed	Unit	Analytical Method	Analyst
Total Organic Carbon (Run 1)	3.7		0.01	1	11/15/06	%	9060	GJP
Total Organic Carbon (Run 2)	3.9		0.01	1	11/15/06	%	9060	GJP
Reactive Sulfide	79		6.6	25	11/15/06	mg/Kg	Ch.7/376.2	JAD

N/A - Not Applicable

Inorganics



Client: **Apex Environmental, Inc.**

Project: **New Bedford Harbor**

Case: **N/A** SDG: **N/A**

Client ID: **327 0-1**

Matrix: **Sediment**

Percent Solid: **36.6**

Lab Code: **MA00030**

ETR: **0610189**

Lab ID: **0610189-07**

Date Collected: **10/25/06**

Date Received: **10/27/06**

Parameter	Result	Qualifier	Reporting Limit	Dilution	Date Analyzed	Unit	Analytical Method	Analyst
Total Organic Carbon (Run 1)	2.5		0.01	1	11/15/06	%	9060	GJP
Total Organic Carbon (Run 2)	2.2		0.01	1	11/15/06	%	9060	GJP
Reactive Sulfide	1300		100	500	11/15/06	mg/Kg	Ch.7/376.2	JAD

N/A - Not Applicable

Inorganics



Client: **Apex Environmental, Inc.**

Project: **New Bedford Harbor**

Case: **N/A** SDG: **N/A**

Client ID: **333 0-1**

Matrix: **Sediment**

Percent Solid: **54.3**

Lab Code: **MA00030**

ETR: **0610189**

Lab ID: **0610189-10**

Date Collected: **10/24/06**

Date Received: **10/27/06**

Parameter	Result	Qualifier	Reporting Limit	Dilution	Date Analyzed	Unit	Analytical Method	Analyst
Total Organic Carbon (Run 1)	1.7		0.01	1	11/15/06	%	9060	GJP
Total Organic Carbon (Run 2)	2.0		0.01	1	11/15/06	%	9060	GJP
Reactive Sulfide	220		14	50	11/15/06	mg/Kg	Ch.7/376.2	JAD

N/A - Not Applicable

Inorganics



Client: **Apex Environmental, Inc.**

Project: **New Bedford Harbor**

Case: **N/A** SDG: **N/A**

Client ID: **335 0-1**

Matrix: **Sediment**

Percent Solid: **64.3**

Lab Code: **MA00030**

ETR: **0610189**

Lab ID: **0610189-12**

Date Collected: **10/24/06**

Date Received: **10/27/06**

Parameter	Result	Qualifier	Reporting Limit	Dilution	Date Analyzed	Unit	Analytical Method	Analyst
Total Organic Carbon (Run 1)	2.5		0.01	1	11/15/06	%	9060	GJP
Total Organic Carbon (Run 2)	2.7		0.01	1	11/15/06	%	9060	GJP
Reactive Sulfide	730		57	200	11/15/06	mg/Kg	Ch.7/376.2	JAD

N/A - Not Applicable

Inorganics



Client: **Apex Environmental, Inc.**

Project: **New Bedford Harbor**

Case: **N/A** SDG: **N/A**

Client ID: **336 0-1**

Matrix: **Sediment**

Percent Solid: **56.4**

Lab Code: **MA00030**

ETR: **0610189**

Lab ID: **0610189-13**

Date Collected: **10/24/06**

Date Received: **10/27/06**

Parameter	Result	Qualifier	Reporting Limit	Dilution	Date Analyzed	Unit	Analytical Method	Analyst
Total Organic Carbon (Run 1)	1.1		0.01	1	11/15/06	%	9060	GJP
Total Organic Carbon (Run 2)	1.2		0.01	1	11/15/06	%	9060	GJP
Reactive Sulfide	390		48	200	11/15/06	mg/Kg	Ch.7/376.2	JAD

N/A - Not Applicable

Blank Inorganics



Client: **Apex Environmental, Inc.**

Project: **New Bedford Harbor**

Case: **N/A** SDG: **N/A**

Client ID: **Blank**

Matrix: **Sediment**

Percent Solid: **100**

Lab Code: **MA00030**

ETR: **0610189**

Lab ID: **WS111506B23**

Date Collected: **N/A**

Date Received: **N/A**

Parameter	Result	Qualifier	Reporting Limit	Dilution	Date Analyzed	Unit	Analytical Method	Analyst
Reactive Sulfide	1.0	U	1.0	1	11/15/06	mg/Kg	Ch.7/376.2	JAD

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

Blank Inorganics



Client: **Apex Environmental, Inc.**

Project: **New Bedford Harbor**

Case: **N/A** SDG: **N/A**

Client ID: **Blank**

Matrix: **Sediment**

Percent Solid: **100**

Lab Code: **MA00030**

ETR: **0610189**

Lab ID: **WS111606B08**

Date Collected: **N/A**

Date Received: **N/A**

Parameter	Result	Qualifier	Reporting Limit	Dilution	Date Analyzed	Unit	Analytical Method	Analyst
Total Organic Carbon (Run 1)	0.01	U	0.01	1	11/15/06	%	9060	GJP
Total Organic Carbon (Run 2)	0.01	U	0.01	1	11/15/06	%	9060	GJP

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

Laboratory Control Sample Inorganics



Client: **Apex Environmental, Inc.**

Project: **New Bedford Harbor**

Case: **N/A** SDG: **N/A**

Client ID: **Laboratory Control Sample**

Matrix: **Sediment**

Percent Solid: **100**

Lab Code: **MA00030**

ETR: **0610189**

Lab ID: **WS111506L07**

Date Collected: **N/A**

Date Received: **N/A**

Parameter	Conc.	% Recovery	% Recovery Limits
Reactive Sulfide	26	91	75-125

N/A - Not Applicable

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded results.

12/01/06 08:33

Standard Reference Material 1944 Inorganics



Client: **Apex Environmental, Inc.**
Project: **New Bedford Harbor**
Case: **N/A** SDG: **N/A**
Client ID: **SRM 1944**
Matrix: **Sediment**
Percent Solid: **100**

Lab Code: **MA00030**
ETR: **0610189**

Lab ID: **WS111606L194401**
Date Collected: **N/A**
Date Received: **N/A**

Parameter	Conc.	% Recovery	% Recovery Limits
Total Organic Carbon (Run 1)	4.7	106	75-125
Total Organic Carbon (Run 2)	4.4	100	75-125

N/A - Not Applicable

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded results.

12/01/06 08:33

CHAIN OF CUSTODY RECORDS

Sample Receipt Checklist

Page 1 of 1

Client: <u>ARRENU</u>	Receipt Date: <u>10/27/06</u>
Project: <u>NB Harbor Phase II</u>	Log-in Date: <u>1</u>
ETR #: <u>0610189</u>	Inspection by: <u>W</u> Login by: <u>W</u>

ALL SECTIONS BELOW MUST BE COMPLETED

Comments / Notes

<p>Were samples shipped? Yes, FedEx / UPS / Other: _____ <input checked="" type="radio"/> No, WHG Courier pick-up / Hand delivered</p>	<p>Sample storage refrigerator #: <u>C3</u></p> <p>Sample storage freezer #: _____</p> <p>Cooler 2: _____ Cooler 3: _____</p> <p>Cooler 4: _____ Cooler 5: _____</p> <p>Cooler 6: _____ Cooler 7: _____</p> <p>More: _____</p>
<p>Is bill of lading retained? Yes, Tracking #: _____ No, Unavailable / <input checked="" type="radio"/> NA</p>	
<p>Number of coolers received for this project delivery: <u>1</u></p>	
<p>Indicate cooler temperature upon opening (if multiple coolers, record <u>all</u> temps): <u>Note:</u> If <u>all</u> coolers are 2-6°C, use one checklist, if NOT, use separate checklists and note <u>all</u> samples received <u>above</u> 6°C.</p> <p><u>Cooler 1:</u> Temperature(s) taken from: <u>4°</u> IR Gun, <u>3°</u> Temp. Blank, / NA</p>	
<p>Were samples received on ice? <input checked="" type="radio"/> Yes / No</p>	
<p>Chain-of-Custody present? <input checked="" type="radio"/> Yes / No Complete? <input checked="" type="radio"/> Yes / No</p>	
<p>Custody seals present on Cooler? Yes / <input checked="" type="radio"/> No on Bottles? Yes / <input checked="" type="radio"/> No Intact? Yes / No / <input checked="" type="radio"/> NA <u>Note: Affix custody seals to back of this page.</u></p>	
<p>Were sample containers intact? <input checked="" type="radio"/> Yes / No If No, list samples: →</p>	
<p>Did VOA/VPH waters contain headspace (>5mm)? Yes / No <input checked="" type="radio"/> NA If Yes, list samples: →</p>	
<p>Were 5035 VOA soils, or VPH soils, covered with MeOH? Yes / No / <input checked="" type="radio"/> NA If No, list samples: →</p>	
<p>Was a sufficient amount of sample received for each test indicated on the COC? <input checked="" type="radio"/> Yes / No If No, list samples: →</p>	<p>Chemical preservation OK for ALL samples? Yes / No / <input checked="" type="radio"/> N/A <u>If No, list samples below:</u></p>
<p>If chemical preservation is appropriate - Were samples field preserved? Yes / No / <input checked="" type="radio"/> NA <input type="checkbox"/> C=HCl <input type="checkbox"/> M=MeOH <input type="checkbox"/> S=H₂SO₄ <input type="checkbox"/> H=NaOH <input type="checkbox"/> N=HNO₃ <input type="checkbox"/> Other: _____ <input type="checkbox"/> U= Unknown</p>	
<p>Preservation (pH) verified at lab for EVERY bottle? (<u>Not</u>: VOA / VPH / Sulfide) YES: <2 or >12 (CN) or NO <input checked="" type="radio"/> NA If No, why?:</p>	
<p>Were samples received within hold time? <input checked="" type="radio"/> Yes / No If No, list samples: →</p>	
<p>Discrepancy between samples rec'd & COC? Yes / <input checked="" type="radio"/> No If Yes, list samples: →</p>	
<p>Was the Project Manager notified of any other problems? Yes / No / NA</p>	<p>Please use back for any additional notes!</p>
<p>Project Manager Acknowledgement: <u>NAC</u> Date: <u>10/27/06</u></p>	



CHAIN OF CUSTODY

PAGE 3 OF 4

WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

RAYNHAM, MA
TEL: 508-822-9300
FAX: 508-822-3288

Client Information

Client: Apex Companies, LLC
Address: 115 Broad Street, Suite 200
Boston, MA 02110
Phone: 617-728-0070 x113
Fax: 617-728-0080
Email: Cmyers@apexenv.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: NB Harbor Dredge Project
Project Location: New Bedford, MA
Project #: 6591, 002
Project Manager: Det Myers
ALPHA Quote #:
Turn-Around Time
☒ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due: Time:

Date Rec'd in Lab:

Report Information - Data Deliverables

☒ FAX ☒ EMAIL
☐ ADEX ☐ Add'l Deliverables

ALPHA Job #: 0610189

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State / Fed Program Criteria

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTOCOLS

☐ Yes ☒ No Are MCP Analytical Methods Required?
☐ Yes ☒ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

Min detection limits = $As = 0.5 ppm$, $Co = 0.1 ppm$, $Hg = 0.02 ppm / (Ni, Zn, Cr, Cu, Pb = 1 ppm)$
 $PCB sum of CAs = 0.001 ppm$, $EPH = 0.01 ppm$, $TOC = 0.1 \%$, $Resurf. = 3 ppm$
Hold All Samples

ANALYSIS

ACRAPI Metab

PCB summation along

EPH det. Hydrocar

TOC

Res Surf

SAMPLE HANDLING

Filtration
☒ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials
		Date	Time		
-1	311 0-1	10/24/06	1004AM	SED	KVN
-2	311 2.5-3.5	10/24/06	1010AM	SED	KVN
-3	316 0-1	10/25/06	1052AM	SED	KVN
-4	319 0-1	10/23/06	1019AM	SED	KVN
-5	321 0-1	10/25/06	823AM	SED	KVN
-6	325 0-1	10/25/06	1215PM	SED	KVN
-7	327 0-1	10/25/06	1144AM	SED	KVN
-8	328 0-1	10/25/06	1216PM	SED	KVN
-9	331 0-1	10/25/06	128PM	SED	KVN
-10	333 0-1	10/24/06	1230pm	SED	KVN

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT
MA MCP or CT RCP?

Container Type

Preservative

Relinquished By:

Date/Time

Received By:

Date/Time

Shelly Miranda
Paul Stiller

10/26/06 4pm
10/27/06 9:10am
10/27/06 0945

Shelly Miranda
Paul Stiller

10/26/06 4pm
10/27/06 9:10
10/27/06 0945

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms. See reverse side.

Certificate Program Summary



Method numbers assume the most recent EPA revisions. For a complete listing of analytes for the referenced methods please contact your Alpha Woods Hole Lab Project Manager or the Quality Assurance Manager.

Connecticut Department of Public Health Certificate No. : PH-0141 - *Wastewater* (General Chemistry: 120.1, 150.1, 160.1, 160.2, 180.1, 300.0, 310.1, 335.2, 365.2, 405.1, 413.1, COD HACH 8000; Metals: 200.7, 245.1; Organics: 608, 624, 625). *Solid Waste/Soil* (General Chemistry: 1010, 9010/9014, 9045, 9056, 9060; Metals: 6010, 6020, 7041, 7471; Organics: 8081, 8082, 8260, 8270, ETPH).

Florida Department of Health Certificate No. : E87814 - Secondary NELAP Accreditation for *Wastewater* (General Chemistry: 120.1/2510B, 150.1, 160.1/SM2540C, 160.2/SM2540D, 180.1, 300.0, SM2320B, 335.2, 365.2, 413.1, 420.1, SM2540G, COD HACH 8000; Metals: 200.7, 204.2, 206.2, 239.2, 245.1, 270.2, 279.2; Organics: 608, 624, 625). *Solid and Hazardous Waste* (General Chemistry: 9010/9014, 9045, 9050, 9056, 9060, 9065; Metals: 6010, 6020, 7041, 7060, 7421, 7470, 7471, 7740, 7841; Organics: 8081, 8082, 8260, 8270).

Louisiana Department of Environmental Quality Certificate No. : 03090 - Primary NELAP Accrediting Authority for *Wastewater* (General Chemistry: 120.1/2510B, 150.1, 160.1/SM2540C, 160.2/SM2540D, 180.1, 300.0, 310.1/SM2320B, 335.2, 365.2, 376.2, 405.1, 413.1, 420.1, SM2540G, COD HACH 8000; Metals: 200.7, 204.2, 206.2, 239.2, 245.1, 270.2, 279.2; Organics: 608, 624, 625). *Solid and Hazardous Waste* (General Chemistry: 1010, 1311, 9010/9014, 9045, 9056, 9060; Metals: 6010, 6020, 7041, 7060, 7191, 7421, 7470, 7471, 7740, 7841; Organics: 8081, 8082, 8260, 8270).

Maine Department of Human Services Certificate No. : MA030 - *Wastewater* (General Chemistry: 120.1/2510B, 150.1, 160.1/SM2540C, 160.2/SM2540D, 180.1, 300.0, 310.1/SM2320B, 335.2, 365.2, 405.1, 413.1, 420.1, COD HACH 8000; Metals: 200.7, 239.2, 245.1, 270.2, 279.2; Organics: 608, 624).

Massachusetts Department of Environmental Protection Certificate No. : M-MA030 - *Wastewater* (General Chemistry: 120.1/2510B, 150.1, 160.1/SM2540C, 160.2/SM2540D, 180.1, 300.0, 310.1/SM2320B, 335.2, 365.2, 405.1, 413.1, 420.1, COD HACH 8000; Metals: 200.7, 239.2, 245.1, 270.2, 279.2; Organics: 608, 624).

New Hampshire Department of Environmental Services Certificate No. : 220604 - Secondary NELAP Accreditation for *Wastewater* (General Chemistry: 120.1/2510B, 150.1, 160.1/SM2540C, 160.2/SM2540D, 180.1, 300.0, 310.1/SM2320B, 335.2, 365.2, 376.2, 405.1, 413.1, 420.1, COD HACH 8000, SM2540G; Metals: 200.7, 204.2, 206.2, 239.2, 245.1, 270.2, 279.2; Organics: 608, 624, 625).

New Jersey Department of Environmental Protection Certificate No. : MA015 - *Solid and Hazardous Waste* (General Chemistry: 1010, 1311, 3060, 7196, 9010/9014, 9045, 9056, 9060; Metals: 3010, 3015, 3020, 3050, 3051, 6010, 6020, 7041, 7060, 7131, 7191, 7211, 7421, 7470, 7471, 7520, 7740, 7761, 7841; Organics: 3510, 3545, 5030, 5035, 3620, 3630, 3640, 3660, 8081, 8082, 8100, 8260, 8270).

New York Department of Health Certificate No. : 11627 - Secondary NELAP Accreditation for *Wastewater* (Metals: 200.7, 204.2, 206.2, 239.2, 245.1, 270.2, 279.2; Organics: 608, 624, 625). *Solid and Hazardous Waste* (Metals: 6010, 7041, 7060, 7470, 7471, 7740; Organics: 8081, 8082, 8260, 8270).

Rhode Island Department of Health Certificate No. : 00064 - Chemistry: *Organic and Inorganic in Surface Water, Wastewater/Sewage and Soil* (Method numbers not specified with certificate.)

U.S. Army Corps of Engineers - General Chemistry: 9010/9014, 9071/418.1, 9060; Organics: 8081, 8082, 8260, 8270, 8270-SIM; Metals: 6010, 6020, 7000.

Department of the Navy - General Chemistry: 9010/9014, 9060; Organics: 8081, 8082, 8015-mod, 8260, 8270, 8270-SIM; Metals: 6010, 6020.



ANALYTICAL REPORT

Prepared for:

**Apex Environmental, Inc.
286 Congress Street
Suite 610
Boston, MA 02210**

Project: New Bedford Harbor
ETR: 0611024
Report Date: December 06, 2006

Certifications and Accreditations

**Massachusetts MA030
Connecticut PH-0141
New Hampshire 220602
Rhode Island 64
New Jersey MA015
Maine MA030
New York 11627
Louisiana 03090
Army Corps of Engineers
Department of the Navy
Florida E87814**

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Sample ID Cross Reference



Client: **Apex Environmental, Inc.**
Project: **New Bedford Harbor**

Lab Code: **MA00030**
ETR: **0611024**

Lab Sample ID	Client Sample ID
0611024-01	501 grab
0611024-02	502 grab
0611024-03	503 grab
0611024-04	504 grab
0611024-05	505 composite
0611024-06	506 composite
0611024-07	507 composite
0611024-08	508 composite

CASE NARRATIVE

Alpha Woods Hole Labs

ETR: 0611024
Project: New Bedford Harbor

All analyses were performed according to Alpha Woods Hole Labs quality assurance program and documented Standard Operating Procedures (SOPs). The analytical results contained in this report were performed within holding time, and with appropriate quality control measures, except where noted. A summary of all state and federal accreditations is provided within this report. Blank correction of results is not performed in the laboratory for any parameter. Soil/sediment samples are reported on a dry weight basis unless otherwise noted. Air and sediment samples are either not certifiable under the NELAC and/or are not currently held as accredited matrices.

Polychlorinated Biphenyls by GC/MS

1. Several target congeners analyzed by this method co-elute with non-target congeners and are therefore reported as a co-eluting pair. Refer to the individual report forms.
2. The initial analysis of several samples had concentrations that exceeded the calibration range of the instrument. These samples were reanalyzed at dilution and both analyses are reported. Refer to the individual report forms for dilution requirements.

The enclosed results of analyses are representative of the samples as received by the laboratory. Alpha Woods Hole Labs makes no representations or certifications as to the method of sample collection, sample identification, or transporting/handling procedures used prior to the receipt of samples by Alpha Woods Hole Labs. To the best of my knowledge, the information contained in this report is accurate and complete.

Approved by: Nancy J. Rose Title: Project Manager Date: 12/6/06

PCB CONGENERS

PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **501 grab**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0611024**
 Lab ID: **0611024-01**
 Associated Blank: **SS111506B13**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
11/03/06	11/03/06	11/15/06	11/30/06	73.9	5.54	2	1	TLW

Parameter	Result
CI2-BZ#5/#8 ¹	9.5
CI3-BZ#18	25
CI3-BZ#28/#31 ¹	140
CI4-BZ#44	32
CI4-BZ#52	70
CI4-BZ#43/#49 ¹	75
CI4-BZ#66	56
CI5-BZ#101/#84 ¹	100
CI5-BZ#87	27
CI7-BZ#184	0.24 U
CI5-BZ#105	27
CI5-BZ#118	83
CI7-BZ#183	3.2
CI6-BZ#167/#128 ¹	16
CI6-BZ#138/#163 ¹	65
CI6-BZ#153	62
CI7-BZ#170/#190 ¹	6.5
CI7-BZ#180	11
CI7-BZ#182/#187 ¹	7.4
CI8-BZ#195	0.76
CI9-BZ#206	1.1
CI10-BZ#209	0.34

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
CI3-BZ#19-C13	77	50-125
CI8-BZ#202-C13	80	50-125

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **502 grab**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0611024**
 Lab ID: **0611024-02**
 Associated Blank: **SS111506B13**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
11/03/06	11/03/06	11/15/06	11/30/06	80.8	5.31	2	1	TLW

Parameter	Result
CI2-BZ#5/#8 ¹	6.0
CI3-BZ#18	16
CI3-BZ#28/#31 ¹	77
CI4-BZ#44	18
CI4-BZ#52	44
CI4-BZ#43/#49 ¹	45
CI4-BZ#66	32
CI5-BZ#101/#84 ¹	65
CI5-BZ#87	16
CI7-BZ#184	0.23 U
CI5-BZ#105	17
CI5-BZ#118	52
CI7-BZ#183	2.3
CI6-BZ#167/#128 ¹	11
CI6-BZ#138/#163 ¹	42
CI6-BZ#153	41
CI7-BZ#170/#190 ¹	4.6
CI7-BZ#180	7.0
CI7-BZ#182/#187 ¹	5.2
CI8-BZ#195	0.68
CI9-BZ#206	0.76
CI10-BZ#209	0.23 U

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
CI3-BZ#19-C13	82	50-125
CI8-BZ#202-C13	79	50-125

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **503 grab**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0611024**
 Lab ID: **0611024-03**
 Associated Blank: **SS111506B13**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
11/03/06	11/03/06	11/15/06	11/30/06	52.0	5.66	2	1	TLW

Parameter	Result
CI2-BZ#5/#8 ¹	38
CI3-BZ#18	84
CI3-BZ#28/#31 ¹	560 E
CI4-BZ#44	100
CI4-BZ#52	250
CI4-BZ#43/#49 ¹	310
CI4-BZ#66	240
CI5-BZ#101/#84 ¹	380
CI5-BZ#87	90
CI7-BZ#184	0.34 U
CI5-BZ#105	100
CI5-BZ#118	350 E
CI7-BZ#183	12
CI6-BZ#167/#128 ¹	62
CI6-BZ#138/#163 ¹	250
CI6-BZ#153	260
CI7-BZ#170/#190 ¹	26
CI7-BZ#180	41
CI7-BZ#182/#187 ¹	31
CI8-BZ#195	2.7
CI9-BZ#206	4.7
CI10-BZ#209	1.9

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
CI3-BZ#19-C13	82	50-125
CI8-BZ#202-C13	81	50-125

N/A - Not Applicable

E - Estimated value, exceeds the upper limit of calibration.

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **503 grab**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0611024**
 Lab ID: **0611024-03E**
 Associated Blank: **SS111506B13**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
11/03/06	11/03/06	11/15/06	11/30/06	52.0	5.66	2	5	TLW

Parameter	Result
CI2-BZ#5/#8 ¹	31
CI3-BZ#18	78
CI3-BZ#28/#31 ¹	490
CI4-BZ#44	96
CI4-BZ#52	220
CI4-BZ#43/#49 ¹	270
CI4-BZ#66	210
CI5-BZ#101/#84 ¹	340
CI5-BZ#87	81
CI7-BZ#184	1.7 U
CI5-BZ#105	91
CI5-BZ#118	300
CI7-BZ#183	16
CI6-BZ#167/#128 ¹	56
CI6-BZ#138/#163 ¹	220
CI6-BZ#153	230
CI7-BZ#170/#190 ¹	27
CI7-BZ#180	39
CI7-BZ#182/#187 ¹	32
CI8-BZ#195	1.7 U
CI9-BZ#206	1.7 U
CI10-BZ#209	1.7 U

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
CI3-BZ#19-C13	80	50-125
CI8-BZ#202-C13	78	50-125

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **504 grab**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0611024**
 Lab ID: **0611024-04**
 Associated Blank: **SS111506B13**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
11/03/06	11/03/06	11/15/06	11/30/06	45.9	5.35	2	1	TLW

Parameter	Result
CI2-BZ#5/#8 ¹	56
CI3-BZ#18	120
CI3-BZ#28/#31 ¹	760 E
CI4-BZ#44	150
CI4-BZ#52	340 E
CI4-BZ#43/#49 ¹	410
CI4-BZ#66	340 E
CI5-BZ#101/#84 ¹	520
CI5-BZ#87	120
CI7-BZ#184	0.41 U
CI5-BZ#105	140
CI5-BZ#118	460 E
CI7-BZ#183	18
CI6-BZ#167/#128 ¹	79
CI6-BZ#138/#163 ¹	330
CI6-BZ#153	340 E
CI7-BZ#170/#190 ¹	35
CI7-BZ#180	56
CI7-BZ#182/#187 ¹	41
CI8-BZ#195	5.5
CI9-BZ#206	6.7
CI10-BZ#209	3.4

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
CI3-BZ#19-C13	82	50-125
CI8-BZ#202-C13	81	50-125

N/A - Not Applicable

E - Estimated value, exceeds the upper limit of calibration.

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **504 grab**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0611024**
 Lab ID: **0611024-04E**
 Associated Blank: **SS111506B13**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
11/03/06	11/03/06	11/15/06	11/30/06	45.9	5.35	2	5	TLW

Parameter	Result
CI2-BZ#5/#8 ¹	46
CI3-BZ#18	110
CI3-BZ#28/#31 ¹	660
CI4-BZ#44	140
CI4-BZ#52	300
CI4-BZ#43/#49 ¹	350
CI4-BZ#66	290
CI5-BZ#101/#84 ¹	460
CI5-BZ#87	110
CI7-BZ#184	2.0 U
CI5-BZ#105	120
CI5-BZ#118	390
CI7-BZ#183	17
CI6-BZ#167/#128 ¹	73
CI6-BZ#138/#163 ¹	290
CI6-BZ#153	300
CI7-BZ#170/#190 ¹	31
CI7-BZ#180	50
CI7-BZ#182/#187 ¹	37
CI8-BZ#195	4.7
CI9-BZ#206	6.4
CI10-BZ#209	3.3

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
CI3-BZ#19-C13	79	50-125
CI8-BZ#202-C13	78	50-125

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **505 composite**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0611024**
 Lab ID: **0611024-05**
 Associated Blank: **SS111506B13**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
11/03/06	11/03/06	11/15/06	11/30/06	41.1	5.25	2	1	TLW

Parameter	Result
Cl2-BZ#5/#8 ¹	72
Cl3-BZ#18	160
Cl3-BZ#28/#31 ¹	1000 E
Cl4-BZ#44	200
Cl4-BZ#52	460 E
Cl4-BZ#43/#49 ¹	560
Cl4-BZ#66	460 E
Cl5-BZ#101/#84 ¹	750 E
Cl5-BZ#87	180
Cl7-BZ#184	0.46 U
Cl5-BZ#105	210
Cl5-BZ#118	680 E
Cl7-BZ#183	24
Cl6-BZ#167/#128 ¹	120
Cl6-BZ#138/#163 ¹	490
Cl6-BZ#153	510 E
Cl7-BZ#170/#190 ¹	50
Cl7-BZ#180	80
Cl7-BZ#182/#187 ¹	59
Cl8-BZ#195	5.5
Cl9-BZ#206	7.7
Cl10-BZ#209	3.9

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
Cl3-BZ#19-C13	80	50-125
Cl8-BZ#202-C13	85	50-125

N/A - Not Applicable

E - Estimated value, exceeds the upper limit of calibration.

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **505 composite**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0611024**
 Lab ID: **0611024-05E**
 Associated Blank: **SS111506B13**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
11/03/06	11/03/06	11/15/06	12/02/06	41.1	5.25	2	5	TLW

Parameter	Result
CI2-BZ#5/#8 ¹	56
CI3-BZ#18	120
CI3-BZ#28/#31 ¹	820
CI4-BZ#44	150
CI4-BZ#52	360
CI4-BZ#43/#49 ¹	430
CI4-BZ#66	370
CI5-BZ#101/#84 ¹	600
CI5-BZ#87	150
CI7-BZ#184	2.3 U
CI5-BZ#105	180
CI5-BZ#118	560
CI7-BZ#183	21
CI6-BZ#167/#128 ¹	110
CI6-BZ#138/#163 ¹	420
CI6-BZ#153	420
CI7-BZ#170/#190 ¹	47
CI7-BZ#180	72
CI7-BZ#182/#187 ¹	52
CI8-BZ#195	5.6
CI9-BZ#206	7.7
CI10-BZ#209	3.5

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
CI3-BZ#19-C13	76	50-125
CI8-BZ#202-C13	73	50-125

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **506 composite**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0611024**
 Lab ID: **0611024-06**
 Associated Blank: **SS111506B13**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
11/03/06	11/03/06	11/15/06	11/30/06	44.1	5.37	2	1	TLW

Parameter	Result
CI2-BZ#5/#8 ¹	69
CI3-BZ#18	150
CI3-BZ#28/#31 ¹	1100 E
CI4-BZ#44	180
CI4-BZ#52	480 E
CI4-BZ#43/#49 ¹	590
CI4-BZ#66	450 E
CI5-BZ#101/#84 ¹	710 E
CI5-BZ#87	150
CI7-BZ#184	0.42 U
CI5-BZ#105	180
CI5-BZ#118	650 E
CI7-BZ#183	22
CI6-BZ#167/#128 ¹	110
CI6-BZ#138/#163 ¹	450
CI6-BZ#153	500 E
CI7-BZ#170/#190 ¹	46
CI7-BZ#180	73
CI7-BZ#182/#187 ¹	57
CI8-BZ#195	5.2
CI9-BZ#206	7.6
CI10-BZ#209	3.8

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
CI3-BZ#19-C13	82	50-125
CI8-BZ#202-C13	83	50-125

N/A - Not Applicable

E - Estimated value, exceeds the upper limit of calibration.

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **506 composite**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0611024**
 Lab ID: **0611024-06E**
 Associated Blank: **SS111506B13**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
11/03/06	11/03/06	11/15/06	12/02/06	44.1	5.37	2	5	TLW

Parameter	Result
CI2-BZ#5/#8 ¹	54
CI3-BZ#18	110
CI3-BZ#28/#31 ¹	860
CI4-BZ#44	150
CI4-BZ#52	370
CI4-BZ#43/#49 ¹	460
CI4-BZ#66	360
CI5-BZ#101/#84 ¹	580
CI5-BZ#87	130
CI7-BZ#184	2.1 U
CI5-BZ#105	160
CI5-BZ#118	550
CI7-BZ#183	20
CI6-BZ#167/#128 ¹	99
CI6-BZ#138/#163 ¹	390
CI6-BZ#153	420
CI7-BZ#170/#190 ¹	42
CI7-BZ#180	67
CI7-BZ#182/#187 ¹	52
CI8-BZ#195	6.6
CI9-BZ#206	11
CI10-BZ#209	4.4

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
CI3-BZ#19-C13	77	50-125
CI8-BZ#202-C13	76	50-125

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **507 composite**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0611024**
 Lab ID: **0611024-07**
 Associated Blank: **SS111506B13**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
11/03/06	11/03/06	11/15/06	11/30/06	37.4	5.82	2	1	TLW

Parameter	Result
CI2-BZ#5/#8 ¹	72
CI3-BZ#18	140
CI3-BZ#28/#31 ¹	1300 E
CI4-BZ#44	180
CI4-BZ#52	500 E
CI4-BZ#43/#49 ¹	730
CI4-BZ#66	570 E
CI5-BZ#101/#84 ¹	880 E
CI5-BZ#87	160
CI7-BZ#184	0.46 U
CI5-BZ#105	240
CI5-BZ#118	870 E
CI7-BZ#183	29
CI6-BZ#167/#128 ¹	150
CI6-BZ#138/#163 ¹	590
CI6-BZ#153	680 E
CI7-BZ#170/#190 ¹	60
CI7-BZ#180	96
CI7-BZ#182/#187 ¹	77
CI8-BZ#195	5.7
CI9-BZ#206	12
CI10-BZ#209	23

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
CI3-BZ#19-C13	76	50-125
CI8-BZ#202-C13	84	50-125

N/A - Not Applicable

E - Estimated value, exceeds the upper limit of calibration.

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **507 composite**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0611024**
 Lab ID: **0611024-07E**
 Associated Blank: **SS111506B13**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
11/03/06	11/03/06	11/15/06	12/02/06	37.4	5.82	2	5	TLW

Parameter	Result
CI2-BZ#5/#8 ¹	54
CI3-BZ#18	100
CI3-BZ#28/#31 ¹	1000
CI4-BZ#44	150
CI4-BZ#52	410
CI4-BZ#43/#49 ¹	590
CI4-BZ#66	470
CI5-BZ#101/#84 ¹	730
CI5-BZ#87	140
CI7-BZ#184	2.3 U
CI5-BZ#105	200
CI5-BZ#118	740
CI7-BZ#183	26
CI6-BZ#167/#128 ¹	130
CI6-BZ#138/#163 ¹	520
CI6-BZ#153	590
CI7-BZ#170/#190 ¹	54
CI7-BZ#180	86
CI7-BZ#182/#187 ¹	70
CI8-BZ#195	4.7
CI9-BZ#206	12
CI10-BZ#209	22

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
CI3-BZ#19-C13	72	50-125
CI8-BZ#202-C13	81	50-125

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **508 composite**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0611024**
 Lab ID: **0611024-08**
 Associated Blank: **SS111506B13**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
11/03/06	11/03/06	11/15/06	11/30/06	47.2	5.32	2	1	TLW

Parameter	Result
CI2-BZ#5/#8 ¹	70
CI3-BZ#18	170
CI3-BZ#28/#31 ¹	1000 E
CI4-BZ#44	210
CI4-BZ#52	490 E
CI4-BZ#43/#49 ¹	540
CI4-BZ#66	440 E
CI5-BZ#101/#84 ¹	700 E
CI5-BZ#87	160
CI7-BZ#184	0.40 U
CI5-BZ#105	200
CI5-BZ#118	620 E
CI7-BZ#183	21
CI6-BZ#167/#128 ¹	110
CI6-BZ#138/#163 ¹	450
CI6-BZ#153	450 E
CI7-BZ#170/#190 ¹	46
CI7-BZ#180	70
CI7-BZ#182/#187 ¹	50
CI8-BZ#195	3.9
CI9-BZ#206	6.7
CI10-BZ#209	3.8

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
CI3-BZ#19-C13	79	50-125
CI8-BZ#202-C13	85	50-125

N/A - Not Applicable

E - Estimated value, exceeds the upper limit of calibration.

U - The analyte was analyzed for but not detected at the sample specific level reported.

PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **508 composite**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0611024**
 Lab ID: **0611024-08E**
 Associated Blank: **SS111506B13**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
11/03/06	11/03/06	11/15/06	12/02/06	47.2	5.32	2	5	TLW

Parameter	Result
Cl2-BZ#5/#8 ¹	53
Cl3-BZ#18	120
Cl3-BZ#28/#31 ¹	760
Cl4-BZ#44	160
Cl4-BZ#52	370
Cl4-BZ#43/#49 ¹	410
Cl4-BZ#66	340
Cl5-BZ#101/#84 ¹	550
Cl5-BZ#87	130
Cl7-BZ#184	2.0 U
Cl5-BZ#105	160
Cl5-BZ#118	500
Cl7-BZ#183	20
Cl6-BZ#167/#128 ¹	98
Cl6-BZ#138/#163 ¹	370
Cl6-BZ#153	370
Cl7-BZ#170/#190 ¹	41
Cl7-BZ#180	62
Cl7-BZ#182/#187 ¹	44
Cl8-BZ#195	4.1
Cl9-BZ#206	8.8
Cl10-BZ#209	3.2

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
Cl3-BZ#19-C13	66	50-125
Cl8-BZ#202-C13	78	50-125

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

Blank PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **Blank**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0611024**
 Lab ID: **SS111506B13**
 Associated Blank: **N/A**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	11/15/06	11/30/06	100	5.00	2	1	TLW

Parameter	Result
CI2-BZ#5/#8 ¹	0.40 U
CI3-BZ#18	0.20 U
CI3-BZ#28/#31 ¹	0.40 U
CI4-BZ#44	0.20 U
CI4-BZ#52	0.20 U
CI4-BZ#43/#49 ¹	0.40 U
CI4-BZ#66	0.20 U
CI5-BZ#101/#84 ¹	0.40 U
CI5-BZ#87	0.20 U
CI7-BZ#184	0.20 U
CI5-BZ#105	0.20 U
CI5-BZ#118	0.20 U
CI7-BZ#183	0.20 U
CI6-BZ#167/#128 ¹	0.40 U
CI6-BZ#138/#163 ¹	0.40 U
CI6-BZ#153	0.20 U
CI7-BZ#170/#190 ¹	0.40 U
CI7-BZ#180	0.20 U
CI7-BZ#182/#187 ¹	0.40 U
CI8-BZ#195	0.20 U
CI9-BZ#206	0.20 U
CI10-BZ#209	0.20 U

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery	Acceptance Range (%)
CI3-BZ#19-C13	88	50-125
CI8-BZ#202-C13	80	50-125

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

Laboratory Control Summary PCB by GC/MS



Client: **Apex Environmental, Inc.**
 Project: **New Bedford Harbor**
 Client ID: **Laboratory Control Sample**
 Case: **N/A** SDG: **N/A**
 Matrix: **Sediment**

Lab Code: **MA00030**
 ETR: **0611024**
 Lab ID: **See Below**
 Associated Blank: **SS111506B13**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Percent Solid	Analyst
N/A	N/A	11/15/06	100	TLW

Lab ID: SS111506B13 SS111506LCS11 SS111506LCSD11

Parameter	Blank		LCS		LCSD		% RPD	RPD % Recovery	
	Conc.		Conc.	% Recovery	Conc.	% Recovery		Limit	Limits
Cl2-BZ#5/#8 ¹	0.40	U	6.0	76	6.9	86	13	50	40-140
Cl3-BZ#18	0.20	U	5.9	74	6.8	85	13	50	40-140
Cl3-BZ#28/#31 ¹	0.40	U	11	69	13	80	14	50	40-140
Cl4-BZ#44	0.20	U	5.4	68	6.1	77	13	50	40-140
Cl4-BZ#52	0.20	U	5.5	69	6.3	78	13	50	40-140
Cl4-BZ#43/#49 ¹	0.40	U	6.2	77	7.1	89	14	50	40-140
Cl4-BZ#66	0.20	U	5.6	70	6.0	75	6	50	40-140
Cl5-BZ#101/#84 ¹	0.40	U	6.0	75	6.7	84	12	50	40-140
Cl5-BZ#87	0.20	U	4.9	61	5.5	69	12	50	40-140
Cl5-BZ#105	0.20	U	5.2	65	5.7	71	9	50	40-140
Cl5-BZ#118	0.20	U	5.0	63	5.6	70	11	50	40-140
Cl7-BZ#183	0.20	U	5.9	73	6.3	79	7	50	40-140
Cl6-BZ#167/#128 ¹	0.40	U	12	73	13	80	9	50	40-140
Cl6-BZ#138/#163 ¹	0.40	U	4.9	61	5.4	67	10	50	40-140
Cl6-BZ#153	0.20	U	5.7	71	6.2	77	9	50	40-140
Cl7-BZ#170/#190 ¹	0.40	U	5.2	65	5.6	70	7	50	40-140
Cl7-BZ#180	0.20	U	5.9	73	6.6	83	12	50	40-140
Cl7-BZ#182/#187 ¹	0.40	U	6.3	79	6.7	84	7	50	40-140
Cl8-BZ#195	0.20	U	6.1	76	6.6	82	7	50	40-140
Cl9-BZ#206	0.20	U	6.2	78	6.9	86	11	50	40-140
Cl10-BZ#209	0.20	U	6.1	76	6.8	84	10	50	40-140

¹ = These two Congeners are reported as a co-eluting pair.

Surrogate	% Recovery		Acceptance Range (%)
Cl3-BZ#19-C13	88	94	50-125
Cl8-BZ#202-C13	77	84	50-125

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded result.

12/04/06 15:19

CHAIN OF CUSTODY RECORDS

WESTBORO, MA	RAYNHAM, MA
TEL: 508-898-9220	TEL: 508-822-9300
FAX: 508-898-9193	FAX: 508-822-3288

Client Information

Client: Apex Companies LLC
Address: 115 Broad St.
Suite 200
Phone: 617.728.0070
Fax: 617.728.0080
Email: KUNNA@APEXCOS.COM

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name:	New Bedford Harbor
Project Location:	Fairhaven
Project #:	6591.002
Project Manager:	Kris van NERSSON
ALPHA Quote #:	

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: _____ **Time:** _____

Other Project Specific Requirements/Comments/Detection Limits:

Minimum detection limit 0.001 ppm.

Date Rec'd in Lab:

ALPHA Job #: 0611024

Report Information - Data Deliverables

☒ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State /Fed Program	Criteria
--------------------	----------

MAMCPT PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTOCOLS

☐ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

SAMPLE HANDLING

Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
 (Please specify below)

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ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials						(Please specify below) Sample Specific Comments
		Date	Time								
-1	501 grab	11/3/06	13:30	SE	O/R/KVN	✓					
-2	502 grab	11/3/06	14:00	SE	O/R/KVN	✓					
-3	503 grab	11/3/06	14:10	SE	O/R/KVN	✓					
-4	504 grab	11/3/06	14:20	SE	O/L/KVN	✓					
-5	505 composite	11/3/06	14:30	SE	O/R/KVN	✓					
-6	506 composite	11/3/06	15:15	SE	O/R/KVN	✓					
-7	507 composite	11/3/06	15:30	SE	O/R/KVN	✓					
-8	508 composite	11/3/06	15:45	SE	O/R/KVN	✓					

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

FORM NO: 01-01 (rev. 10-OCT-05)

Container Type

Preservative

- Relinquished By:

Date/Time

Received By:

Date/Time

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms. See reverse side.

Sample Receipt Checklist

Page 1 of _____

Client: <u>APEENU</u>	Receipt Date: <u>11/3/06</u>
Project: <u>New Bedford Harbor</u>	Log-in Date: <u>✓</u>
ETR #: <u>0611024</u>	Inspection by: <u>ur</u> Login by: <u>ur</u>

ALL SECTIONS BELOW MUST BE COMPLETED

Comments / Notes

Were samples shipped? Yes, FedEx / UPS / Other: _____ <u>No</u> , WHG Courier pick-up / Hand delivered	Sample storage refrigerator #: <u>C3</u>
Is bill of lading retained? Yes, Tracking #: _____ No, Unavailable / <u>NA</u>	Sample storage freezer #: _____
Number of coolers received for this project delivery: <u>1</u>	
Indicate cooler temperature upon opening (if multiple coolers, record <u>all</u> temps): Note: If <u>all</u> coolers are 2-6°C, use one checklist, if NOT, use separate checklists and note <u>all</u> samples received <u>above</u> 6°C. Cooler 1: Temperature(s) taken from: <u>4°</u> IR Gun, <u>3.5°</u> Temp. Blank, / NA	Cooler 2: _____ Cooler 3: _____ Cooler 4: _____ Cooler 5: _____ Cooler 6: _____ Cooler 7: _____ More: _____
Were samples received on ice? <u>Yes</u> / No	
Chain-of-Custody present? <u>Yes</u> / No Complete? <u>Yes</u> / No	
Custody seals present on Cooler? Yes / <u>No</u> on Bottles? Yes / <u>No</u> Intact? Yes / No / <u>NA</u> Note: Affix custody seals to back of <u>this</u> page.	
Were sample containers intact? <u>Yes</u> / No If No, list samples: →	
Did VOA/VPH waters contain headspace (>5mm)? Yes / No / <u>NA</u> If Yes, list samples: →	
Were 5035 VOA soils, or VPH soils, covered with MeOH? Yes / No / <u>NA</u> If No, list samples: →	
Was a sufficient amount of sample received for each test indicated on the COC? <u>Yes</u> / No If No, list samples: →	
If chemical preservation is appropriate - Were samples field preserved? Yes / No / <u>NA</u> <input type="checkbox"/> C=HCl <input type="checkbox"/> M=MeOH <input type="checkbox"/> S=H ₂ SO ₄ <input type="checkbox"/> H=NaOH <input type="checkbox"/> N=HNO ₃ <input type="checkbox"/> Other: _____ <input type="checkbox"/> U= Unknown	Chemical preservation OK for ALL samples? Yes / No / <u>NA</u> If No, list samples below:
Preservation (pH) verified at lab for <u>EVERY</u> bottle? (Not: VOA / VPH / Sulfide) YES: <2 or >12 (CN) or NO <u>NA</u> If No, why?:	
Were samples received within hold time? <u>Yes</u> / No If No, list samples: →	
Discrepancy between samples rec'd & COC? Yes <u>No</u> If Yes, list samples: →	
Was the Project Manager notified of any other problems? Yes / No / NA	
Project Manager Acknowledgement: <u>Nancy Gilas</u> Date: <u>11/3/06</u>	Please use back for any additional notes!

Certificate Program Summary



Method numbers assume the most recent EPA revisions. For a complete listing of analytes for the referenced methods please contact your Alpha Woods Hole Lab Project Manager or the Quality Assurance Manager.

Connecticut Department of Public Health Certificate No.: PH-0141 - *Wastewater* (General Chemistry: 120.1, 150.1, 160.1, 160.2, 180.1, 300.0, 310.1, 335.2, 365.2, 405.1, 413.1, COD HACH 8000; Metals: 200.7, 245.1; Organics: 608, 624, 625). *Solid Waste/Soil* (General Chemistry: 1010, 9010/9014, 9045, 9056, 9060; Metals: 6010, 6020, 7041, 7471; Organics: 8081, 8082, 8260, 8270, ETPH).

Florida Department of Health Certificate No.: E87814 - Secondary NELAP Accreditation for *Wastewater* (General Chemistry: 120.1/2510B, 150.1, 160.1/SM2540C, 160.2/SM2540D, 180.1, 300.0, SM2320B, 335.2, 365.2, 413.1, 420.1, SM2540G, COD HACH 8000; Metals: 200.7, 204.2, 206.2, 239.2, 245.1, 270.2, 279.2; Organics: 608, 624, 625). *Solid and Hazardous Waste* (General Chemistry: 9010/9014, 9045, 9050, 9056, 9060, 9065; Metals: 6010, 6020, 7041, 7060, 7421, 7470, 7471, 7740, 7841; Organics: 8081, 8082, 8260, 8270).

Louisiana Department of Environmental Quality Certificate No.: 03090 - Primary NELAP Accrediting Authority for *Wastewater* (General Chemistry: 120.1/2510B, 150.1, 160.1/SM2540C, 160.2/SM2540D, 180.1, 300.0, 310.1/SM2320B, 335.2, 365.2, 376.2, 405.1, 413.1, 420.1, SM2540G, COD HACH 8000; Metals: 200.7, 204.2, 206.2, 239.2, 245.1, 270.2, 279.2; Organics: 608, 624, 625). *Solid and Hazardous Waste* (General Chemistry: 1010, 1311, 9010/9014, 9045, 9056, 9060; Metals: 6010, 6020, 7041, 7060, 7191, 7421, 7470, 7471, 7740, 7841; Organics: 8081, 8082, 8260, 8270).

Maine Department of Human Services Certificate No.: MA030 - *Wastewater* (General Chemistry: 120.1/2510B, 150.1, 160.1/SM2540C, 160.2/SM2540D, 180.1, 300.0, 310.1/SM2320B, 335.2, 365.2, 405.1, 413.1, 420.1, COD HACH 8000; Metals: 200.7, 239.2, 245.1, 270.2, 279.2; Organics: 608, 624).

Massachusetts Department of Environmental Protection Certificate No.: M-MA030 - *Wastewater* (General Chemistry: 120.1/2510B, 150.1, 160.1/SM2540C, 160.2/SM2540D, 180.1, 300.0, 310.1/SM2320B, 335.2, 365.2, 405.1, 413.1, 420.1, COD HACH 8000; Metals: 200.7, 239.2, 245.1, 270.2, 279.2; Organics: 608, 624).

New Hampshire Department of Environmental Services Certificate No.: 220604 - Secondary NELAP Accreditation for *Wastewater* (General Chemistry: 120.1/2510B, 150.1, 160.1/SM2540C, 160.2/SM2540D, 180.1, 300.0, 310.1/SM2320B, 335.2, 365.2, 376.2, 405.1, 413.1, 420.1, COD HACH 8000, SM2540G; Metals: 200.7, 204.2, 206.2, 239.2, 245.1, 270.2, 279.2; Organics: 608, 624, 625).

New Jersey Department of Environmental Protection Certificate No.: MA015 - *Solid and Hazardous Waste* (General Chemistry: 1010, 1311, 3060, 7196, 9010/9014, 9045, 9056, 9060; Metals: 3010, 3015, 3020, 3050, 3051, 6010, 6020, 7041, 7060, 7131, 7191, 7211, 7421, 7470, 7471, 7520, 7740, 7761, 7841; Organics: 3510, 3545, 5030, 5035, 3620, 3630, 3640, 3660, 8081, 8082, 8100, 8260, 8270).

New York Department of Health Certificate No.: 11627 - Secondary NELAP Accreditation for *Wastewater* (Metals: 200.7, 204.2, 206.2, 239.2, 245.1, 270.2, 279.2; Organics: 608, 624, 625). *Solid and Hazardous Waste* (Metals: 6010, 7041, 7060, 7470, 7471, 7740; Organics: 8081, 8082, 8260, 8270).

Rhode Island Department of Health Certificate No.: 00064 - Chemistry: *Organic and Inorganic in Surface Water, Wastewater/Sewage and Soil* (Method numbers not specified with certificate.)

U.S. Army Corps of Engineers - General Chemistry: 9010/9014, 9071/418.1, 9060; Organics: 8081, 8082, 8260, 8270, 8270-SIM; Metals: 6010, 6020, 7000.

Department of the Navy - General Chemistry: 9010/9014, 9060; Organics: 8081, 8082, 8015-mod, 8260, 8270, 8270-SIM; Metals: 6010, 6020.



ANALYTICAL REPORT

Lab Number: L1001187

Client: Apex Companies
115 Broad Street
Suite 200
Boston, MA 02110

ATTN: Chet Myers

Project Name: NBH PHASE III

Project Number: 6690.001

Report Date: 01/29/10

Certifications & Approvals: MA (M-MA030), NY (11627), CT (PH-0141), NH (2206), NJ (MA015), RI (LAO00299), ME (MA0030), PA (Registration #68-02089), LA NELAC (03090), FL NELAC (E87814), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: NBH PHASE III
Project Number: 6690.001

Lab Number: L1001187
Report Date: 01/29/10

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1001187-01	POST_012010_G1	NEW BEDFORD, MA	01/20/10 10:16
L1001187-02	POST_012010_TP2	NEW BEDFORD, MA	01/20/10 12:45
L1001187-03	POST_012010_UW1	NEW BEDFORD, MA	01/20/10 12:17
L1001187-04	POST_012010_PACK1	NEW BEDFORD, MA	01/20/10 14:20
L1001187-05	POST_012010_BHB1	NEW BEDFORD, MA	01/20/10 14:46
L1001187-06	POST_012010_ONWF1	NEW BEDFORD, MA	01/20/10 13:48
L1001187-07	POST_012010_SA1	NEW BEDFORD, MA	01/20/10 11:20
L1001187-08	POST_012010_SA2	NEW BEDFORD, MA	01/20/10 11:30
L1001187-09	POST_012010_SA3	NEW BEDFORD, MA	01/20/10 11:45
L1001187-10	POST_012010_TP1	NEW BEDFORD, MA	01/20/10 13:00

Project Name: NBH PHASE III
Project Number: 6690.001

Lab Number: L1001187
Report Date: 01/29/10

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

PCB Congeners

L1001187-05 was re-analyzed on dilution in order to quantitate the sample within the calibration range. The result should be considered estimated, and is qualified with an E flag, for any compound that exceeded the calibration on the initial analysis. The re-analysis was performed only for the compound that exceeded the calibration range.

Project Name: NBH PHASE III
Project Number: 6690.001

Lab Number: L1001187
Report Date: 01/29/10

Case Narrative (continued)

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:



Title: Technical Director/Representative

Date: 01/29/10

ORGANICS

PCBS

Project Name: NBH PHASE III**Lab Number:** L1001187**Project Number:** 6690.001**Report Date:** 01/29/10**SAMPLE RESULTS**

Lab ID: L1001187-01
Client ID: POST_012010_G1
Sample Location: NEW BEDFORD, MA
Matrix: Soil
Analytical Method: 1,8270C-SIM
Analytical Date: 01/28/10 16:51
Analyst: WN
Percent Solids: 76%

Date Collected: 01/20/10 10:16
Date Received: 01/22/10
Field Prep: Not Specified
Extraction Method: EPA 3570
Extraction Date: 01/25/10 14:11
Cleanup Method1: - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
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PCB Congeners (NOAA List) - Mansfield Lab

CI2-BZ#8	20.4		ug/kg	0.954	1
CI3-BZ#18	64.8		ug/kg	0.954	1
CI3-BZ#28	204		ug/kg	0.954	1
CI4-BZ#44	58.5		ug/kg	0.954	1
CI4-BZ#49	70.3		ug/kg	0.954	1
CI4-BZ#52	129		ug/kg	0.954	1
CI4-BZ#66	25.0		ug/kg	0.954	1
CI5-BZ#87	ND		ug/kg	0.954	1
CI5-BZ#101	75.7		ug/kg	0.954	1
CI5-BZ#105	25.3		ug/kg	0.954	1
CI5-BZ#118	76.9		ug/kg	0.954	1
CI6-BZ#128	10.4		ug/kg	0.954	1
CI6-BZ#138	66.7		ug/kg	0.954	1
CI6-BZ#153	30.4		ug/kg	0.954	1
CI7-BZ#170	7.11		ug/kg	0.954	1
CI7-BZ#180	7.56		ug/kg	0.954	1
CI7-BZ#183	ND		ug/kg	0.954	1
CI7-BZ#184	ND		ug/kg	0.954	1
CI7-BZ#187	4.11		ug/kg	0.954	1
CI8-BZ#195	ND		ug/kg	0.954	1
CI9-BZ#206	ND		ug/kg	0.954	1
CI10-BZ#209	ND		ug/kg	0.954	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	81		50-125
BZ 198	81		50-125

Project Name: NBH PHASE III**Lab Number:** L1001187**Project Number:** 6690.001**Report Date:** 01/29/10**SAMPLE RESULTS**

Lab ID: L1001187-02
Client ID: POST_012010_TP2
Sample Location: NEW BEDFORD, MA
Matrix: Soil
Analytical Method: 1,8270C-SIM
Analytical Date: 01/28/10 17:30
Analyst: WN
Percent Solids: 66%

Date Collected: 01/20/10 12:45
Date Received: 01/22/10
Field Prep: Not Specified
Extraction Method: EPA 3570
Extraction Date: 01/25/10 14:11
Cleanup Method1: - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
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PCB Congeners (NOAA List) - Mansfield Lab

CI2-BZ#8	ND		ug/kg	1.08	1
CI3-BZ#18	ND		ug/kg	1.08	1
CI3-BZ#28	ND		ug/kg	1.08	1
CI4-BZ#44	ND		ug/kg	1.08	1
CI4-BZ#49	ND		ug/kg	1.08	1
CI4-BZ#52	ND		ug/kg	1.08	1
CI4-BZ#66	ND		ug/kg	1.08	1
CI5-BZ#87	ND		ug/kg	1.08	1
CI5-BZ#101	ND		ug/kg	1.08	1
CI5-BZ#105	ND		ug/kg	1.08	1
CI5-BZ#118	ND		ug/kg	1.08	1
CI6-BZ#128	ND		ug/kg	1.08	1
CI6-BZ#138	ND		ug/kg	1.08	1
CI6-BZ#153	ND		ug/kg	1.08	1
CI7-BZ#170	ND		ug/kg	1.08	1
CI7-BZ#180	ND		ug/kg	1.08	1
CI7-BZ#183	ND		ug/kg	1.08	1
CI7-BZ#184	ND		ug/kg	1.08	1
CI7-BZ#187	ND		ug/kg	1.08	1
CI8-BZ#195	ND		ug/kg	1.08	1
CI9-BZ#206	ND		ug/kg	1.08	1
CI10-BZ#209	ND		ug/kg	1.08	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	88		50-125
BZ 198	89		50-125

Project Name: NBH PHASE III**Lab Number:** L1001187**Project Number:** 6690.001**Report Date:** 01/29/10**SAMPLE RESULTS**

Lab ID: L1001187-03
Client ID: POST_012010_UW1
Sample Location: NEW BEDFORD, MA
Matrix: Soil
Analytical Method: 1,8270C-SIM
Analytical Date: 01/28/10 18:08
Analyst: WN
Percent Solids: 35%

Date Collected: 01/20/10 12:17
Date Received: 01/22/10
Field Prep: Not Specified
Extraction Method: EPA 3570
Extraction Date: 01/25/10 14:11
Cleanup Method1: - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
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PCB Congeners (NOAA List) - Mansfield Lab

CI2-BZ#8	30.1		ug/kg	2.10	1
CI3-BZ#18	192		ug/kg	2.10	1
CI3-BZ#28	397		ug/kg	2.10	1
CI4-BZ#44	112		ug/kg	2.10	1
CI4-BZ#49	92.1		ug/kg	2.10	1
CI4-BZ#52	218		ug/kg	2.10	1
CI4-BZ#66	42.4		ug/kg	2.10	1
CI5-BZ#87	ND		ug/kg	2.10	1
CI5-BZ#101	158		ug/kg	2.10	1
CI5-BZ#105	70.3		ug/kg	2.10	1
CI5-BZ#118	170		ug/kg	2.10	1
CI6-BZ#128	41.0		ug/kg	2.10	1
CI6-BZ#138	209		ug/kg	2.10	1
CI6-BZ#153	102		ug/kg	2.10	1
CI7-BZ#170	45.5		ug/kg	2.10	1
CI7-BZ#180	67.9		ug/kg	2.10	1
CI7-BZ#183	9.25		ug/kg	2.10	1
CI7-BZ#184	ND		ug/kg	2.10	1
CI7-BZ#187	54.1		ug/kg	2.10	1
CI8-BZ#195	ND		ug/kg	2.10	1
CI9-BZ#206	ND		ug/kg	2.10	1
CI10-BZ#209	ND		ug/kg	2.10	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	88		50-125
BZ 198	119		50-125

Project Name: NBH PHASE III**Lab Number:** L1001187**Project Number:** 6690.001**Report Date:** 01/29/10**SAMPLE RESULTS**

Lab ID: L1001187-04
Client ID: POST_012010_PACK1
Sample Location: NEW BEDFORD, MA
Matrix: Soil
Analytical Method: 1,8270C-SIM
Analytical Date: 01/28/10 18:47
Analyst: WN
Percent Solids: 81%

Date Collected: 01/20/10 14:20
Date Received: 01/22/10
Field Prep: Not Specified
Extraction Method: EPA 3570
Extraction Date: 01/25/10 14:11
Cleanup Method1: - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
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PCB Congeners (NOAA List) - Mansfield Lab

CI2-BZ#8	ND		ug/kg	0.923	1
CI3-BZ#18	1.74		ug/kg	0.923	1
CI3-BZ#28	8.85		ug/kg	0.923	1
CI4-BZ#44	1.98		ug/kg	0.923	1
CI4-BZ#49	4.04		ug/kg	0.923	1
CI4-BZ#52	5.71		ug/kg	0.923	1
CI4-BZ#66	4.04		ug/kg	0.923	1
CI5-BZ#87	ND		ug/kg	0.923	1
CI5-BZ#101	4.46		ug/kg	0.923	1
CI5-BZ#105	ND		ug/kg	0.923	1
CI5-BZ#118	2.96		ug/kg	0.923	1
CI6-BZ#128	ND		ug/kg	0.923	1
CI6-BZ#138	2.58		ug/kg	0.923	1
CI6-BZ#153	2.48		ug/kg	0.923	1
CI7-BZ#170	ND		ug/kg	0.923	1
CI7-BZ#180	ND		ug/kg	0.923	1
CI7-BZ#183	ND		ug/kg	0.923	1
CI7-BZ#184	ND		ug/kg	0.923	1
CI7-BZ#187	ND		ug/kg	0.923	1
CI8-BZ#195	ND		ug/kg	0.923	1
CI9-BZ#206	ND		ug/kg	0.923	1
CI10-BZ#209	ND		ug/kg	0.923	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	88		50-125
BZ 198	88		50-125

Project Name: NBH PHASE III**Lab Number:** L1001187**Project Number:** 6690.001**Report Date:** 01/29/10**SAMPLE RESULTS**

Lab ID: L1001187-05
Client ID: POST_012010_BHB1
Sample Location: NEW BEDFORD, MA
Matrix: Soil
Analytical Method: 1,8270C-SIM
Analytical Date: 01/28/10 21:21
Analyst: WN
Percent Solids: 72%

Date Collected: 01/20/10 14:46
Date Received: 01/22/10
Field Prep: Not Specified
Extraction Method: EPA 3570
Extraction Date: 01/25/10 14:11
Cleanup Method1: - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
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PCB Congeners (NOAA List) - Mansfield Lab

CI2-BZ#8	322	E	ug/kg	0.988	1
CI3-BZ#18	991	E	ug/kg	0.988	1
CI3-BZ#28	2820	E	ug/kg	0.988	1
CI4-BZ#44	968	E	ug/kg	0.988	1
CI4-BZ#49	847	E	ug/kg	0.988	1
CI4-BZ#52	1770	E	ug/kg	0.988	1
CI4-BZ#66	260	E	ug/kg	0.988	1
CI5-BZ#87	ND		ug/kg	0.988	1
CI5-BZ#101	789	E	ug/kg	0.988	1
CI5-BZ#105	140		ug/kg	0.988	1
CI5-BZ#118	524	E	ug/kg	0.988	1
CI6-BZ#128	39.4		ug/kg	0.988	1
CI6-BZ#138	314	E	ug/kg	0.988	1
CI6-BZ#153	285	E	ug/kg	0.988	1
CI7-BZ#170	31.8		ug/kg	0.988	1
CI7-BZ#180	30.3		ug/kg	0.988	1
CI7-BZ#183	6.06		ug/kg	0.988	1
CI7-BZ#184	ND		ug/kg	0.988	1
CI7-BZ#187	28.7		ug/kg	0.988	1
CI8-BZ#195	ND		ug/kg	0.988	1
CI9-BZ#206	4.35		ug/kg	0.988	1
CI10-BZ#209	1.74		ug/kg	0.988	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	76		50-125
BZ 198	105		50-125

Project Name: NBH PHASE III**Lab Number:** L1001187**Project Number:** 6690.001**Report Date:** 01/29/10**SAMPLE RESULTS**

Lab ID: L1001187-05 D
Client ID: POST_012010_BHB1
Sample Location: NEW BEDFORD, MA
Matrix: Soil
Analytical Method: 1,8270C-SIM
Analytical Date: 01/28/10 19:25
Analyst: WN
Percent Solids: 72%

Date Collected: 01/20/10 14:46
Date Received: 01/22/10
Field Prep: Not Specified
Extraction Method: EPA 3570
Extraction Date: 01/25/10 14:11
Cleanup Method1: - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	568		ug/kg	19.8	20
Cl3-BZ#18	1780		ug/kg	19.8	20
Cl3-BZ#28	4900		ug/kg	19.8	20
Cl4-BZ#44	1590		ug/kg	19.8	20
Cl4-BZ#49	1620		ug/kg	19.8	20
Cl4-BZ#52	2530		ug/kg	19.8	20
Cl4-BZ#66	466		ug/kg	19.8	20
Cl5-BZ#101	756		ug/kg	19.8	20
Cl5-BZ#118	631		ug/kg	19.8	20
Cl6-BZ#138	413		ug/kg	19.8	20
Cl6-BZ#153	356		ug/kg	19.8	20

Project Name: NBH PHASE III**Lab Number:** L1001187**Project Number:** 6690.001**Report Date:** 01/29/10**SAMPLE RESULTS**

Lab ID: L1001187-06
Client ID: POST_012010_ONWF1
Sample Location: NEW BEDFORD, MA
Matrix: Soil
Analytical Method: 1,8270C-SIM
Analytical Date: 01/28/10 20:43
Analyst: WN
Percent Solids: 74%

Date Collected: 01/20/10 13:48
Date Received: 01/22/10
Field Prep: Not Specified
Extraction Method: EPA 3570
Extraction Date: 01/25/10 14:11
Cleanup Method1: - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
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PCB Congeners (NOAA List) - Mansfield Lab

CI2-BZ#8	8.68		ug/kg	0.965	1
CI3-BZ#18	47.0		ug/kg	0.965	1
CI3-BZ#28	143		ug/kg	0.965	1
CI4-BZ#44	49.3		ug/kg	0.965	1
CI4-BZ#49	50.7		ug/kg	0.965	1
CI4-BZ#52	92.8		ug/kg	0.965	1
CI4-BZ#66	17.6		ug/kg	0.965	1
CI5-BZ#87	ND		ug/kg	0.965	1
CI5-BZ#101	72.8		ug/kg	0.965	1
CI5-BZ#105	21.2		ug/kg	0.965	1
CI5-BZ#118	77.2		ug/kg	0.965	1
CI6-BZ#128	19.7		ug/kg	0.965	1
CI6-BZ#138	80.4		ug/kg	0.965	1
CI6-BZ#153	37.0		ug/kg	0.965	1
CI7-BZ#170	4.90		ug/kg	0.965	1
CI7-BZ#180	11.3		ug/kg	0.965	1
CI7-BZ#183	ND		ug/kg	0.965	1
CI7-BZ#184	ND		ug/kg	0.965	1
CI7-BZ#187	6.66		ug/kg	0.965	1
CI8-BZ#195	ND		ug/kg	0.965	1
CI9-BZ#206	ND		ug/kg	0.965	1
CI10-BZ#209	ND		ug/kg	0.965	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	92		50-125
BZ 198	103		50-125

Project Name: NBH PHASE III**Lab Number:** L1001187**Project Number:** 6690.001**Report Date:** 01/29/10**SAMPLE RESULTS**

Lab ID: L1001187-07
Client ID: POST_012010_SA1
Sample Location: NEW BEDFORD, MA
Matrix: Soil
Analytical Method: 1,8270C-SIM
Analytical Date: 01/28/10 22:00
Analyst: WN
Percent Solids: 81%

Date Collected: 01/20/10 11:20
Date Received: 01/22/10
Field Prep: Not Specified
Extraction Method: EPA 3570
Extraction Date: 01/25/10 14:11
Cleanup Method1: - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
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PCB Congeners (NOAA List) - Mansfield Lab

CI2-BZ#8	ND		ug/kg	0.925	1
CI3-BZ#18	ND		ug/kg	0.925	1
CI3-BZ#28	18.4		ug/kg	0.925	1
CI4-BZ#44	ND		ug/kg	0.925	1
CI4-BZ#49	6.46		ug/kg	0.925	1
CI4-BZ#52	15.2		ug/kg	0.925	1
CI4-BZ#66	2.28		ug/kg	0.925	1
CI5-BZ#87	ND		ug/kg	0.925	1
CI5-BZ#101	8.49		ug/kg	0.925	1
CI5-BZ#105	ND		ug/kg	0.925	1
CI5-BZ#118	10.8		ug/kg	0.925	1
CI6-BZ#128	ND		ug/kg	0.925	1
CI6-BZ#138	10.4		ug/kg	0.925	1
CI6-BZ#153	8.73		ug/kg	0.925	1
CI7-BZ#170	ND		ug/kg	0.925	1
CI7-BZ#180	ND		ug/kg	0.925	1
CI7-BZ#183	ND		ug/kg	0.925	1
CI7-BZ#184	ND		ug/kg	0.925	1
CI7-BZ#187	ND		ug/kg	0.925	1
CI8-BZ#195	ND		ug/kg	0.925	1
CI9-BZ#206	ND		ug/kg	0.925	1
CI10-BZ#209	ND		ug/kg	0.925	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	96		50-125
BZ 198	69		50-125

Project Name: NBH PHASE III

Lab Number: L1001187

Project Number: 6690.001

Report Date: 01/29/10

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270C-SIM
 Analytical Date: 01/28/10 14:55
 Analyst: WN

Extraction Method: EPA 3570
 Extraction Date: 01/25/10 14:11
 Cleanup Method1: - - - -
 Cleanup Date1:

Parameter	Result	Qualifier	Units	RDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01-07 Batch: WG397971-1				
Cl2-BZ#8	ND		ug/kg	0.800
Cl3-BZ#18	ND		ug/kg	0.800
Cl3-BZ#28	ND		ug/kg	0.800
Cl4-BZ#44	ND		ug/kg	0.800
Cl4-BZ#49	ND		ug/kg	0.800
Cl4-BZ#52	ND		ug/kg	0.800
Cl4-BZ#66	ND		ug/kg	0.800
Cl5-BZ#87	ND		ug/kg	0.800
Cl5-BZ#101	ND		ug/kg	0.800
Cl5-BZ#105	ND		ug/kg	0.800
Cl5-BZ#118	ND		ug/kg	0.800
Cl6-BZ#128	ND		ug/kg	0.800
Cl6-BZ#138	ND		ug/kg	0.800
Cl6-BZ#153	ND		ug/kg	0.800
Cl7-BZ#170	ND		ug/kg	0.800
Cl7-BZ#180	ND		ug/kg	0.800
Cl7-BZ#183	ND		ug/kg	0.800
Cl7-BZ#184	ND		ug/kg	0.800
Cl7-BZ#187	ND		ug/kg	0.800
Cl8-BZ#195	ND		ug/kg	0.800
Cl9-BZ#206	ND		ug/kg	0.800
Cl10-BZ#209	ND		ug/kg	0.800

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	75		50-125
BZ 198	88		50-125



Lab Control Sample Analysis Batch Quality Control

Project Name: NBH PHASE III

Project Number: 6690.001

Lab Number: L1001187

Report Date: 01/29/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-07 Batch: WG397971-2 WG397971-3								
Cl2-BZ#8	57		73		40-140	25		30
Cl3-BZ#18	56		71		40-140	24		30
Cl3-BZ#28	57		70		40-140	20		30
Cl4-BZ#44	59		72		40-140	20		30
Cl4-BZ#49	47		55		40-140	16		30
Cl4-BZ#52	69		92		40-140	29		30
Cl4-BZ#66	61		75		40-140	21		30
Cl5-BZ#87	63		71		40-140	12		30
Cl5-BZ#101	58		70		40-140	19		30
Cl5-BZ#105	41		50		40-140	20		30
Cl5-BZ#118	63		71		40-140	12		30
Cl6-BZ#128	62		75		40-140	19		30
Cl6-BZ#138	62		77		40-140	22		30
Cl6-BZ#153	61		72		40-140	17		30
Cl7-BZ#170	68		78		40-140	14		30
Cl7-BZ#180	66		75		40-140	13		30
Cl7-BZ#183	43		44		40-140	2		30
Cl7-BZ#184	59		73		40-140	21		30
Cl7-BZ#187	82		102		40-140	22		30
Cl8-BZ#195	58		66		40-140	13		30
Cl9-BZ#206	67		80		40-140	18		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: NBH PHASE III

Lab Number: L1001187

Project Number: 6690.001

Report Date: 01/29/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-07 Batch: WG397971-2 WG397971-3								
CI10-BZ#209	58		70		40-140	19		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
DBOB	58		73		50-125
BZ 198	69		75		50-125

INORGANICS & MISCELLANEOUS

Project Name: NBH PHASE III**Project Number:** 6690.001**Lab Number:** L1001187**Report Date:** 01/29/10**SAMPLE RESULTS**

Lab ID: L1001187-01
Client ID: POST_012010_G1
Sample Location: NEW BEDFORD, MA
Matrix: Soil

Date Collected: 01/20/10 10:16
Date Received: 01/22/10
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	76.1		%	0.100	1	-	01/25/09 13:15	30,2540G	KB



Project Name: NBH PHASE III**Project Number:** 6690.001**Lab Number:** L1001187**Report Date:** 01/29/10**SAMPLE RESULTS**

Lab ID: L1001187-02
Client ID: POST_012010_TP2
Sample Location: NEW BEDFORD, MA
Matrix: Soil

Date Collected: 01/20/10 12:45
Date Received: 01/22/10
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	66.0		%	0.100	1	-	01/25/09 13:15	30,2540G	KB



Project Name: NBH PHASE III**Project Number:** 6690.001**Lab Number:** L1001187**Report Date:** 01/29/10**SAMPLE RESULTS**

Lab ID: L1001187-03
Client ID: POST_012010_UW1
Sample Location: NEW BEDFORD, MA
Matrix: Soil

Date Collected: 01/20/10 12:17
Date Received: 01/22/10
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	34.5		%	0.100	1	-	01/25/09 13:15	30,2540G	KB



Project Name: NBH PHASE III**Project Number:** 6690.001**Lab Number:** L1001187**Report Date:** 01/29/10**SAMPLE RESULTS**

Lab ID: L1001187-04
Client ID: POST_012010_PACK1
Sample Location: NEW BEDFORD, MA
Matrix: Soil

Date Collected: 01/20/10 14:20
Date Received: 01/22/10
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	81.3		%	0.100	1	-	01/25/09 13:15	30,2540G	KB



Project Name: NBH PHASE III**Project Number:** 6690.001**Lab Number:** L1001187**Report Date:** 01/29/10**SAMPLE RESULTS**

Lab ID: L1001187-05
Client ID: POST_012010_BHB1
Sample Location: NEW BEDFORD, MA
Matrix: Soil

Date Collected: 01/20/10 14:46
Date Received: 01/22/10
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	71.9		%	0.100	1	-	01/25/09 13:15	30,2540G	KB



Project Name: NBH PHASE III**Project Number:** 6690.001**Lab Number:** L1001187**Report Date:** 01/29/10**SAMPLE RESULTS**

Lab ID: L1001187-06
Client ID: POST_012010_ONWF1
Sample Location: NEW BEDFORD, MA
Matrix: Soil

Date Collected: 01/20/10 13:48
Date Received: 01/22/10
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	73.9		%	0.100	1	-	01/25/09 13:15	30,2540G	KB



Project Name: NBH PHASE III**Project Number:** 6690.001**Lab Number:** L1001187**Report Date:** 01/29/10**SAMPLE RESULTS****Lab ID:** L1001187-07**Client ID:** POST_012010_SA1**Sample Location:** NEW BEDFORD, MA**Matrix:** Soil**Date Collected:** 01/20/10 11:20**Date Received:** 01/22/10**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	80.5		%	0.100	1	-	01/25/09 13:15	30,2540G	KB



Lab Duplicate Analysis
Batch Quality Control**Project Name:** NBH PHASE III**Project Number:** 6690.001**Lab Number:** L1001187**Report Date:** 01/29/10

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 01-07 QC Batch ID: WG397944-1 QC Sample: L1001187-01 Client ID: POST_012010_G1						
Solids, Total	76.1	75.3	%	1		20

Project Name: NBH PHASE III**Project Number:** 6690.001**Lab Number:** L1001187**Report Date:** 01/29/10**Sample Receipt and Container Information**

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis
L1001187-01A	Glass 100ml unpreserved	A	N/A	3	Y	Absent	A2-PCBCONG-8270-NOAA(),A2-TS(7)
L1001187-02A	Glass 100ml unpreserved	A	N/A	3	Y	Absent	A2-PCBCONG-8270-NOAA(),A2-TS(7)
L1001187-03A	Glass 100ml unpreserved	A	N/A	3	Y	Absent	A2-PCBCONG-8270-NOAA(),A2-TS(7)
L1001187-04A	Glass 100ml unpreserved	A	N/A	3	Y	Absent	A2-PCBCONG-8270-NOAA(),A2-TS(7)
L1001187-05A	Glass 100ml unpreserved	A	N/A	3	Y	Absent	A2-PCBCONG-8270-NOAA(),A2-TS(7)
L1001187-06A	Glass 100ml unpreserved	A	N/A	3	Y	Absent	A2-PCBCONG-8270-NOAA(),A2-TS(7)
L1001187-07A	Glass 100ml unpreserved	A	N/A	3	Y	Absent	A2-PCBCONG-8270-NOAA(),A2-TS(7)
L1001187-08A	Glass 100ml unpreserved	A	N/A	3	Y	Absent	HOLD(14)
L1001187-09A	Glass 100ml unpreserved	A	N/A	3	Y	Absent	HOLD(14)
L1001187-10A	Glass 100ml unpreserved	A	N/A	3	Y	Absent	HOLD(14)

*Hold days indicated by values in parentheses



Project Name: NBH PHASE III
Project Number: 6690.001

Lab Number: L1001187
Report Date: 01/29/10

GLOSSARY

Acronyms

EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
ND	- Not detected at the reported detection limit for the sample.
NI	- Not Ignitable.
RDL	- Reported Detection Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A	- Spectra identified as "Aldol Condensation Product".
B	- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank.
D	- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
E	- Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
H	- The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
P	- The RPD between the results for the two columns exceeds the method-specified criteria.
Q	- The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RDL. (Metals only.)
R	- Analytical results are from sample re-analysis.
RE	- Analytical results are from sample re-extraction.
J	- Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

Report Format: Data Usability Report



Project Name: NBH PHASE III
Project Number: 6690.001

Lab Number: L1001187
Report Date: 01/29/10

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.
- 30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Woods Hole Labs shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Woods Hole Labs.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Certificate/Approval Program Summary

Last revised December 15, 2009 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held. For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0141.

Wastewater/Non-Potable Water (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable), Total Cyanide. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

Solid Waste/Soil (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Organic Carbon, Total Cyanide, Corrosivity, TCLP 1311. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Florida Department of Health Certificate/Lab ID: E87814. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: SM2320B, EPA 120.1, SM2510B, EPA 245.1, EPA 150.1, EPA 160.2, SM2540D, EPA 335.2, SM2540G, EPA 180.1. Organic Parameters: EPA 625, 608.)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7470, 7471, 9045, 9014. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

Air & Emissions (EPA TO-15.)

Louisiana Department of Environmental Quality Certificate/Lab ID: 03090. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: EPA 120.1, 150.1, 160.2, 180.1, 200.8, 245.1, 310.1, 335.2, 608, 625, 1631, 3010, 3015, 3020, 6020, 9010, 9014, 9040, SM2320B, 2510B, 2540D, 2540G, 4500CN-E, 4500H-B, Organic Parameters: EPA 3510, 3580, 3630, 3640, 3660, 3665, 5030, 8015 (mod), 3570, 8081, 8082, 8260, 8270,)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7196, 7470, 7471, 7474, 9010, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015 (mod), EPA 3570, 1311, 3050, 3051, 3060, 3580, 3630, 3640, 3660, 3665, 5035, 8081, 8082, 8260, 8270.)

Biological Tissue (Inorganic Parameters: EPA 6020. Organic Parameters: EPA 3570, 3510, 3610, 3630, 3640, 8270.)

Maine Department of Human Services Certificate/Lab ID: MA0030.

Wastewater (Inorganic Parameters: EPA 120.1, 300.0, SM 2320, 2510B, 2540C, 2540D, EPA 245.1. Organic Parameters: 608, 624.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA030.

Non-Potable Water (Inorganic Parameters: SM4500H+B. Organic Parameters: EPA 624.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 2206. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: EPA 200.8, 245.1, 1631E, 120.1, 150.1, 180.1, 310.1, 335.2, 160.2, SM2540D, 2540G, 4500CN-E, 4500H+B, 2320B, 2510B. Organic Parameters: EPA 625, 608.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA015. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: SW-846 1312, 3010, 3020A, 3015, 6020, SM2320B, EPA 200.8, SM2540C, 2540D, 2540G, EPA 120.1, SM2510B, EPA 180.1, 245.1, 1631E, SW-846 9040B, 6020, 9010B, 9014 Organic Parameters: EPA 608, 625, SW-846 3510C, 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082 8260B, 8270C)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6020, 9010B, 9014, 1311, 1312, 3050B, 3051, 3060A, 7196A, 7470A, 7471A, 9045C, 9060. Organic Parameters: SW-846 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082, 8260B, 8270C, 3570, 8015B.)

Atmospheric Organic Parameters (EPA TO-15)

Biological Tissue (Inorganic Parameters: SW-846 6020 Organic Parameters: SW-846 8270C, 3510C, 3570, 3610B, 3630C, 3640A)

New York Department of Health Certificate/Lab ID: 11627. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: EPA 310.1, SM2320B, EPA 365.2, 160.1, EPA 160.2, SM2540D, EPA 200.8, 6020, 1631E, 245.1, 335.2, 9014, 150.1, 9040B, 120.1, SM2510B, EPA 376.2, 180.1, 9010B. Organic Parameters: EPA 624, 8260B, 8270C, 608, 8081A, 625, 8082, 3510C, 3511, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 9040B, 9045C, SW-846 Ch7 Sec 7.3, EPA 6020, 7196A, 7471A, 7474, 9014, 9040B, 9045C, 9010B. Organic Parameters: EPA 8260B, 8270C, 8081A, DRO 8015B, 8082, 1311, 3050B, 3580, 3050B, 3035, 3570, 3051, 5035, 5030B.)

Air & Emissions (EPA TO-15.)

Pennsylvania Department of Environmental Protection Certificate/Lab ID: 68-02089. NELAP Accredited.

Non-Potable Water (Organic Parameters: EPA 5030B, EPA 8260)

Rhode Island Department of Health Certificate/Lab ID: LAO00299. NELAP Accredited via LA-DEQ.

Refer to MA-DEP Certificate for Non-Potable Water.

Refer to LA-DEQ Certificate for Non-Potable Water.

Texas Commission of Environmental Quality Certificate/Lab ID: T104704419-08-TX. NELAP Accredited.

Solid & Chemical Materials (Inorganic Parameters: EPA 6020, 7470, 7471, 1311, 7196, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8260, 8081, 8082.)

U.S. Army Corps of Engineers

Department of Defense Certificate/Lab ID: L2217.01.

Non-Potable Water (Inorganic Parameters: EPA 3005A, 3020, 6020, 245.1, 245.7, 1631E, 7470A, 7474, 9014, 120.1, 9050A, 180.1, SM4500H-B, 2320B, 2510B, 2540D, 9040. Organic Parameters: EPA 3510C, 5030B, 9010B, 624, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 3051, 6020, 747A, 7474, 9045C, 9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580, 3570, 3540C, 5035, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).)

Air & Emissions (EPA TO-15.)

Analytes Not Accredited by NELAP

Certification is not available by NELAP for the following analytes: **8270C**: Biphenyl.



CHAIN OF CUSTODY

PAGE OF

WESTBORO, MA	MANSFIELD, MA
TEL: 508-898-9220	TEL: 508-822-9300
FAX: 508-898-9193	FAX: 508-822-3288

Client Information

Client: APEX COMPANIES LLC

Address: 184 HIGH ST SUITE 502
BOSTON MA 02110

Phone: 617-4728-0070 -

Fax: 617-728-0080

Email: CMYERS@APEXCOS.COM

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: NBH PHASE III

Project Location: NEW BEDFORD

Project #: 6690.001

Project Manager: CHET MYERS

ALPHA Quote #:

Turn-Around Time

☐ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: _____ Time: _____

Other Project Specific Requirements/Comments/Detection Limits:

Date Rec'd in Lab:

ALPHA Job #: 21001187

Report Information - Data Deliverables

☐ FAX ☒ EMAIL
☐ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State /Fed Program

Criteria

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTOCOLS

☐ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

SAMPLE HANDLING

Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
 (Please specify below)

THE
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[illegible]

PLEASE ANSWER QUESTIONS ABOVE!

Container Type	AMBER GLASS
----------------	-------------

Preservative	NONE
--------------	------

IS YOUR PROJECT MA MCP *or* CT RCP?

Relinquished By:

Date/Time

Received By

Date/Time

APPENDIX B
WATER QUALITY MONITORING SHEETS

PROJECT: 0615.005 NBH

JOB NUMBER:

DATE: 0613/2008

MONITORS: MB JM

WEATHER CONDITIONS: Sunny 75°

WIND: calm

PRIOR STORM EVENTS: None

DREDGE UPDATE: Not Begun

TYPE OF WATER QUALITY MONITORING:



UP-CURRENT

TIME: 1115

NUMBER OF HOURS OF DREDGING: 0

GPS FILE NAME: 06132008-00-1

DISTANCE FROM DREDGE/SILT CURTAIN:

NORTHING:

EASTING:

TIDAL STAGE:

WATER DEPTH: 7.6'

Monitoring ID #	TIME	DEPTH (ft)	AVE TURBIDITY (NTUs)	NOTES
06132008-00-1-5.5	1115	5.5	0.06	DO 3.9 / PH 7.71 / ORP 281.2
06132008-00-1-2.0	1115	2.0	0.1	DO 3.51 / PH 7.73 / ORP 292.2
-00-1-3.25	1115	3.25	0.2	DO 3.31 / PH 7.72 / ORP 299.2

AVERAGE TURBIDITY:

DOWN-CURRENT

TIME: 1045

NUMBER OF HOURS OF DREDGING: 0

GPS FILE NAME: 06132008-00

DISTANCE FROM DREDGE/SILT CURTAIN:

NORTHING:

EASTING:

TIDAL STAGE: Low tide was @ 10:11

WATER DEPTH: 7.0'

Monitoring ID #	TIME	DEPTH (ft)	AVE TURBIDITY (NTUs)	NOTES
06132008-00-9-5	1045	5	-0.1	Temp 20.7°C / 46.39 mS/cm / 42.44 ns/m / 70.5 / DO 5.29
06132008-00-9-2	1047	2	-0.5	DO 6.09 / PH 7.81 / ORP 1.51 / PH 7.8
06132008-00-9-3	1049	3	0.0	DO 5.24 / PH 7.81 / ORP 1.594 / 137.2 ORP

AVERAGE TURBIDITY:

TURBIDITY INCREASE**:

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT: NBH-CAD II

JOB NUMBER: 6615.005.01

DATE: 6/14/00

DISPOSAL EVENT:

MONITORS: Jen Martino | Chns Mams

WEATHER CONDITIONS: Clear, Calm, 70°F

WIND: Cool Breeze

PRIOR STORM EVENTS: None

NOT DESER

Dronco

Apex *Dragon Mountain*

KUN 6/15/07

UP-CURRENT

TIME: 07:15 am

GPS FILE NAME: 061408

NORTHING: 2696460.99

TIDAL STAGE: High to Low

TIME OF DISPOSAL:

DISTANCE FROM DISPOSAL LOCATION:

EASTING: 815208.62

WATER DEPTH: 7.8

Monitoring ID #	TIME	DEPTH (ft)	AVG TURBIDITY (NTUs)	Temp	Sp. sal.	NOTES PH	ORP	DO
061408-00-1-5.5	0719	5.5	0	20.58°C	42.85 us/cm	7.84 pH	111.2 ORP	4.26 DO
061408-00-1-2.0	0720	2.0	0	20.61	42.79 us/cm	7.82 pH	122.5	4.93
061408-00-1-3.25	0721	3.25	0	20.81	42.77	7.81 pH	138.2	4.74
061408-01-9-2.0	0825	2	0	20.93	42.83	7.78	242.2	2.84
061408-01-9-4.0	0826	4	0.3	20.86	42.76	7.77	252.9	2.78
061408-01-9-3.0	0829	3	.4	20.95	42.82	7.76	258.1	2.88
061408-03-1-3.0	1017	3	.9	21.45	43.34	7.81	108.5	7.79
061408-03-1-2.5	1019	2.5	.9	21.48	43.34	7.79	132.4	7.79
061408-03-1-2.0	1021	2	.9	21.52	43.37	7.79	150.1	7.78
061408-03-9-5	1032	5	3	20.78	42.84	7.78	253	2.49
061408-03-9-2	1035	2	2	21.52	43.38	7.79	262.1	2.69
061408-03-9-2.5	1037	3.5	2	21.51	43.35	7.79	271.0	2.81

AVERAGE TURBIDITY:

DISPOSAL LOCATION

TIME:

GPS FILE NAME:

NORTHING:

TIDAL STAGE:

TIME OF DISPOSAL:

DISTANCE FROM DISPOSAL LOCATION:

EASTING:

WATER DEPTH:

[illegible]

AVERAGE TURBIDITY:

WATER DEPTH:

2008 WQ Disposal Monitoring Form

PROJECT:

NRH

Dredge Water Quality Monitoring Form

JOB NUMBER:

6615005-01

DATE:

6/16/08

MONITORS:

MB JIC

WEATHER CONDITIONS:

Cold 60°

WIND:

5 knts

PRIOR STORM EVENTS:

None

DREDGE UPDATE:

Pre

TYPE OF WATER QUALITY MONITORING:

Pre Dredge



UP-CURRENT

TIME:

1645

NUMBER OF HOURS OF DREDGING:

0

GPS FILE NAME:

061608-1

DISTANCE FROM DREDGE/SILT CURTAIN:

NORTHING:

EASTING:

TIDAL STAGE:

Low → High

WATER DEPTH:

46.0

Monitoring ID #	TIME	DEPTH (ft)	AVE TURBIDITY (NTUs)	DO	pH	ORP	NOTES
061808-32-1	1645	32	44.1	2.03	7.86	207.1	
061808-2-1	1648	2	0.1	8.18	7.86	210.0	
061808-15-1	1653	15	-0.3	2.25	7.87	214.8	

AVERAGE TURBIDITY:

Pre-Dump

DOWN-CURRENT

TIME:

1630

NUMBER OF HOURS OF DREDGING:

0

GPS FILE NAME:

061608-9

DISTANCE FROM DREDGE/SILT CURTAIN:

NORTHING:

EASTING:

TIDAL STAGE:

Low → High

WATER DEPTH:

20'

Monitoring ID #	TIME	DEPTH (ft)	AVE TURBIDITY (NTUs)	DO	pH	ORP	NOTES
061608-18-9	1629	18	-0.2	5.21	7.8	129.5	
061608-02-9	1632	2	-0.2	7.28	7.88	131.6	
061608-08-9	1635	8	-0.1	3.41	7.87	134.2	

AVERAGE TURBIDITY:

TURBIDITY INCREASE*:

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT: NBH-Top of CAD Cell 2

Dredge Water Quality Monitoring Form

JOB NUMBER: 0615-005-01

DATE: 6/19/08

MONITORS: Jen Martino & Chris Morris

WEATHER CONDITIONS: Sunny, cool, 70°F

WIND: Slight breeze

PRIOR STORM EVENTS: N/A

DREDGE UPDATE: Pre-Dredge WQ Monitoring

TYPE OF WATER QUALITY MONITORING: Pre-Dredge WQ Monitoring (up-current)
(down-current)

UP-CURRENT

TIME: 0800 hrs

NUMBER OF HOURS OF DREDGING: 00

GPS FILE NAME: 061908-00-1

DISTANCE FROM DREDGE/SILT CURTAIN: 200 feet

NORTHING: 2695782.23

EASTING: 815597.93

TIDAL STAGE: Flood (low to high)

WATER DEPTH: 8.0 feet

Monitoring ID #	TIME	DEPTH (ft)	AVE TURBIDITY (NTUs)	NOTES
061908-00-1-2	0810	2.0	5.2	
061908-00-1-4	0815	4.0	6.3	
061908-00-1-6	0820	6.0	6.7	
		Total:	$18.2/3 = 6.06$	
AVERAGE TURBIDITY: 6.0 NTU				

DOWN-CURRENT

TIME: 0830 hrs.

NUMBER OF HOURS OF DREDGING: 00

GPS FILE NAME: 061908-00-9

DISTANCE FROM DREDGE/SILT CURTAIN: 200 feet

NORTHING: 2698242.76 N

EASTING: 815579.98 E

TIDAL STAGE: Flood (low to high)

WATER DEPTH: 8.4 feet

Monitoring ID #	TIME	DEPTH (ft)	AVE TURBIDITY (NTUs)	NOTES
061908-00-9-2	0835	2.0	1.3	
061908-00-9-4	0840	4.0	1.1	
061908-00-9-6	0845	6.0	4.1	
		Total:	$6.5/3 = 2.16$	
AVERAGE TURBIDITY: 2.2 NTU				

TURBIDITY INCREASE*: 2.2 NTU - 6.0 NTU = -3.8 NTU

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

6/19/08

Dredge Disposal Water Quality Monitoring Form

PROJECT: NBH - Top of Cat

JOB NUMBER: 0615.005.01

DATE: 6/19/08

DISPOSAL EVENT: D2 of day - dumping SE-103

MONITORS: Jen Martino + Chris Morris

WEATHER CONDITIONS: Cloudy/Sunny, warm ~ 75°F

WIND: light breeze

PRIOR STORM EVENTS: N/A



UP-CURRENT

TIME: 1200 hrs

GPS FILE NAME: 061908-05-1

NORTHING: 2696029.4

TIDAL STAGE: ebb (High to low)

TIME OF DISPOSAL: 1200 hrs

DISTANCE FROM DISPOSAL LOCATION:

EASTING: 814946.07

WATER DEPTH: 40 Feet

Monitoring ID #	TIME	DEPTH (ft)	AVG TURBIDITY (NTUs)	NOTES
061908-05-1-7	1150	2.0	27.9	
061908-05-1-16	1155	16.0	31.0	
061908-05-1-38	1200	38.0	11.4	

AVERAGE TURBIDITY:

DISPOSAL LOCATION

TIME: 1205 hrs

GPS FILE NAME: 061908-D2-05m

NORTHING: 2695906

TIDAL STAGE: Ebb (High to low)

TIME OF DISPOSAL: 1200 hrs

DISTANCE FROM DISPOSAL LOCATION: ~~2000 ft~~ @ location

EASTING: 814821

WATER DEPTH: 43 Feet

Monitoring ID #	TIME	DEPTH (ft)	AVG TURBIDITY (NTUs)	NOTES
061908-D2-05-2	1215	2.0	1	
061908-D2-05-20	1220	10.0	2.1	
061908-D2-05-40	1225	40.0	2.2	

AVERAGE TURBIDITY:

JOB NUMBER: 6415-005-01

DATE: 6/24/08

MONITORS: Jen Martino + Josh Ray

WEATHER CONDITIONS: Clear, overcast, cool - 65°F

WIND: 6001 breeze

PRIOR STORM EVENTS: rain

DREDGE UPDATE: started at 0000 hrs

TYPE OF WATER QUALITY MONITORING: 00 hr upcurrent / downcurrent turbidity



UP-CURRENT

TIME: 0750 hrs

NUMBER OF HOURS OF DREDGING: 22

GPS FILE NAME: 062408-00-1 (dredge)

DISTANCE FROM DREDGE/SILT CURTAIN: 200 ft

NORTHING: 2695793

EASTING: 815466

TIDAL STAGE: Flood

WATER DEPTH: 10 ft.

Monitoring ID #

TIME

DEPTH (ft)

AVE
TURBIDITY
(NTUs)

NOTES

06-2408-00-1-2	0750	2.0	0.0
----------------	------	-----	-----

062400-00-1-5	0755	5.0	0.2
---------------	------	-----	-----

062408-00-1-8	0000	8.0	0.0
---------------	------	-----	-----

AVERAGE TURBIDITY:

DOWN-CURRENT

TIME: 0800 hrs

NUMBER OF HOURS OF DREDGING: 00

GPS FILE NAME: 062408-00-9

DISTANCE FROM DREDGE/SILT CURTAIN: 200 Feet

NORTHING: 269-6375

EASTING: 015344

TIDAL STAGE: Flood

WATER DEPTH: 6 feet

Monitoring ID #

TIME

DEPTH (ft)

AVE
TURBIDITY
(NTUs)

NOTES

062408-00-9-80800	2.0	2.0
-------------------	-----	-----

067108-00-9-3	0805	3.0	0.2
---------------	------	-----	-----

0624-08-00-7-40810	U.O	0.2
--------------------	-----	-----

AVERAGE TURBIDITY:

TURBIDITY INCREASE*:

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

Dredge Water Quality Monitoring Form

DATE: 6/24/00

MONITORS: Jen Martino + Josh Ray

WEATHER CONDITIONS: Sunny, hot, clear skies

WIND: slight breeze

PRIOR STORM EVENTS: *rain*

DREDGE UPDATE: 02 hours of dredge

TYPE OF WATER QUALITY MONITORING: turbidity dredge WQ - upcurrent + downcurrent



TIME: 1000 hrs

GPS FILE NAME: 067408-02-1

NORTHING: 2695844

TIDAL STAGE: Flood

NUMBER OF HOURS OF DREDGING: 02

DISTANCE FROM DREDGE/SILT CURTAIN: 300 ft.

EASTING: 815302

WATER DEPTH: 31 Feet

Monitoring ID #	TIME	DEPTH (ft)	AVE TURBIDITY (NTUs)	NOTES
062408-02-1-2	1000	2.0	-0.2	
062408-02-1-13	1005	13.0	-0.2	
062408-02-1-29	1010	29.0	2.1	
		total:	1.7 / 3 = 0.425	

AVERAGE TURBIDITY: 2.42 NTU

TIME: 1010 hrs.

GPS FILE NAME: 062408-02-9

NORTHING: 2696493

TIDAL STAGE: Flood

NUMBER OF HOURS OF DREDGING: 02

DISTANCE FROM DREDGE/SILT CURTAIN: 200 ft.

EASTING: 815 278

WATER DEPTH: 7.5 feet

[illegible]

AVERAGE TURBIDITY: 0.42 NTU

TURBIDITY INCREASE*:

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity



TIME:	10:05
GPS FILE NAME:	62608-00-1
NORTHING:	2695861
TIDAL STAGE:	Flood

DISTANCE FROM DREDGE/SILT CURTAIN: 242'

EASTING: 915590

WATER DEPTH: 147

Monitoring ID #	TIME	DEPTH (ft)	AVE TURBIDITY (NTUs)	NOTES
062608-00-1-2	1605	2	0.3	
062608-00-1-3	1605	3	1.5	
062608-00-1-4	1606	4	3.2	

TIME: 10:17
GPS FILE NAME: 062608-00-9
NORTHING: 26946325
TIDAL STAGE: flood

DISTANCE FROM DREDGE/SILT CURTAIN: 200

EASTING: 4151.94

WATER DEPTH: 62

[illegible]

TURBIDITY INCREASE*:

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT: NBH - TOP OF CAD

Dredge Water Quality Monitoring Form

JOB NUMBER: 6615.005.01

DATE: 6/26/08

MONITORS: JEN MARTINO + WARREN B.

WEATHER CONDITIONS: Cloudy w 65°F

WIND: Slightly breezy

PRIOR STORM EVENTS: rain

DREDGE UPDATE: 02 hrs - dumping into Slew SE-104

TYPE OF WATER QUALITY MONITORING: Turbidity - up & down current



UP-CURRENT

TIME: 1150

NUMBER OF HOURS OF DREDGING: 02

GPS FILE NAME: 062608-02-1

DISTANCE FROM DREDGE/SILT CURTAIN: 200 Feet

NORTHING: 2695847

EASTING: 815400

TIDAL STAGE: Flood

WATER DEPTH: 31 Feet

Monitoring ID #	TIME	DEPTH (ft)	AVE TURBIDITY (NTUs)	NOTES
062608-02-1-2	11:52	2	0.3	
062608-02-1-14	11:55	14	0.6	
062608-02-1-28	11:57	28	1.7	

AVERAGE TURBIDITY:

DOWN-CURRENT

TIME: 1155

NUMBER OF HOURS OF DREDGING: 02

GPS FILE NAME:

DISTANCE FROM DREDGE/SILT CURTAIN: 200 FT

NORTHING: 2696467 (1)

EASTING: 815755 (1)

TIDAL STAGE: flood

WATER DEPTH: 9

Monitoring ID #	TIME	DEPTH (ft)	AVE TURBIDITY (NTUs)	NOTES
062608-02-9-2	1155	2	0.5	
062608-02-9-5	1157	5	9.7	
062608-02-9-8	1200	8	6.4	
062608-02-9-2	1202	2	1.3	
062608-02-9-4	1205	4	0.5	
062608-02-9-5	1207	5	0.6	

AVERAGE TURBIDITY:

TURBIDITY INCREASE*:

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

Dredge Water Quality Monitoring Form

DATE: 6/26/08

MONITORS: Jen Martino + Warren B.

WEATHER CONDITIONS: Overcast, rain, 77° F humid

WIND: cool/humid breeze

PRIOR STORM EVENTS: *rain*

DREDGE UPDATE: 06 hour. DI of mudcat, up-current/down-current readings

TYPE OF WATER QUALITY MONITORING: Turbidity - WW



UP-CURRENT

TIME: 1600

NUMBER OF HOURS OF DREDGING: 06

GPS FILE NAME:

DISTANCE FROM DREDGE/SILT CURTAIN: 200 ft.

NORTHING: 2696430

EASTING: 815.768

TIDAL STAGE: Ebb

WATER DEPTH: 10 Feet

Monitoring ID #	TIME	DEPTH (ft)	AVE TURBIDITY (NTUs)	NOTES
062608-06-1-2	1600	2	-0.5	
062608-06-1-5	1603	5	-0.6	
	1605	8	-0.7	

AVERAGE TURBIDITY:

DOWN-CURRENT

TIME: 1607

NUMBER OF HOURS OF DREDGING: 06

GPS FILE NAME: 062608-06-9

DISTANCE FROM DREDGE/SILT CURTAIN: 200 feet

NORTHING: 269586.1

EASTING: 015574

TIDAL STAGE: Ebb

WATER DEPTH: 3 feet

[illegible]

AVERAGE TURBIDITY:

TURBIDITY INCREASE*:

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT: NBH-Top of CAD

Dredge Water Quality Monitoring Form

JOB NUMBER: 6615.005.01

DATE: 6/26/08

MONITORS: Jenn Martin + Warren B.

WEATHER CONDITIONS: Cloudy, some rain, humid ~ 75°F

WIND: no wind/slight breeze

PRIOR STORM EVENTS: Rain

DREDGE UPDATE: 08 hr dredging

TYPE OF WATER QUALITY MONITORING: turbidity up/down current



UP-CURRENT

TIME: 1800

NUMBER OF HOURS OF DREDGING: 08

GPS FILE NAME: 062608-08-1

DISTANCE FROM DREDGE/SILT CURTAIN: 200 ft.

NORTHING: 2696320

EASTING: 815503

TIDAL STAGE: ebb

WATER DEPTH: 7.5'

Monitoring ID #	TIME	DEPTH (ft)	AVE TURBIDITY (NTUs)	NOTES
062608-08-1-2	1800	2	0.0	
062608-08-1-4	1802	4	0.0	
062608-08-1-6	1803	6	-0.4	
AVERAGE TURBIDITY:				

DOWN-CURRENT

TIME: 1805

NUMBER OF HOURS OF DREDGING: 08

GPS FILE NAME: ~~062608-08-9~~ 062608-08-9

DISTANCE FROM DREDGE/SILT CURTAIN: 200'

NORTHING: 2696342

EASTING: 815579

TIDAL STAGE: ebb

WATER DEPTH: 6'

Monitoring ID #	TIME	DEPTH (ft)	AVE TURBIDITY (NTUs)	NOTES
062608-08-9-2	1805	2	5.4	
062608-08-9-3	1807	3	7.3	
062608-08-9-4	1808	4	7.1	
AVERAGE TURBIDITY:				

TURBIDITY INCREASE*

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

JOB NUMBER: 6615, 603, 61

DATE: 6/30/68

MONITORS: JIC, JER

WEATHER CONDITIONS: 72° F

WIND: approx 0-5 kts.

PRIOR STORM EVENTS: Heavy rain yesterday evening

DREDGE UPDATE:

TYPE OF WATER QUALITY MONITORING: Dredge Monitoring



UP-CURRENT

TIME: 07:00

NUMBER OF HOURS OF DREDGING: 0

GPS FILE NAME:

DISTANCE FROM DREDGE/SILT CURTAIN: N/A

NORTHING: ~~2670678~~ 2670588

EASTING: ~~815342~~ 815379

TIDAL STAGE: Ebb

WATER DEPTH: 7

Monitoring ID #	TIME	DEPTH (ft)	AVE TURBIDITY (NTUs)	NOTES
063008-00-1-2	07:05	2	-0.1	
063008-00-1-4	07:05	4	0.0	
063008-00-1-5	07:06	5	-0.1	

AVERAGE TURBIDITY:

DOWN-CURRENT

TIME: 07:10

NUMBER OF HOURS OF DREDGING: 0

GPS FILE NAME:

DISTANCE FROM DREDGE/SILT CURTAIN: N/A

NORTHING: 2676093

EASTING: 815613

TIDAL STAGE: Ebb

WATER DEPTH: 1.0

[illegible]

AVERAGE TURBIDITY:

TURBIDITY INCREASE*:

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

Dredge Water Quality Monitoring Form

DATE: 6/30/08

WEATHER CONDITIONS:

WIND:

PRIOR STORM EVENTS:

DREDGE UPDATE:

TYPE OF WATER QUALITY MONITORING:



TIME: 10:00

NUMBER OF HOURS OF DREDGING: 2

GPS FILE NAME:

DISTANCE FROM DREDGE/SILT CURTAIN:

NORTHING: 2696551

EASTING: 815317

TIDAL STAGE: Ebb

WATER DEPTH: 10

Monitoring ID #	TIME	DEPTH (ft)	AVE TURBIDITY (NTUs)	NOTES
063008-02-1-2	10:01	2	0.3	
063008-02-1-3	10:01	3	0.3	
063008-02-1-4	10:01	4	1.3	

AVERAGE TURBIDITY:

TIME: 10:04

NUMBER OF HOURS OF DREDGING: 2

GPS FILE NAME:

DISTANCE FROM DREDGE/SILT CURTAIN:

NORTHING: 2676111

EASTING: 1 815468

TIDAL STAGE: Ebb

WATER DEPTH: 8

[illegible]

AVERAGE TURBIDITY:

TURBIDITY INCREASE*:

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

JOB NUMBER: 6615.005.61

DATE: 6/30/08

MONITORS: JK JER

WEATHER CONDITIONS: 1467 80°F

WIND: 5 kts

PRIOR STORM EVENTS: Yesterday evening rain

DREDGE UPDATE: On 4th 75ft. cut on western side

TYPE OF WATER QUALITY MONITORING: Dredge Monitoring for Turbidity.



GPS down		UP-CURRENT		
TIME: 12:15	NUMBER OF HOURS OF DREDGING: 4			
GPS FILE NAME: /	DISTANCE FROM DREDGE/SILT CURTAIN: N/A			
NORTHING: /	EASTING: 30-40 ft. off 2626 stem			
TIDAL STAGE: Flood	WATER DEPTH: 9			
Soft dredge 1 length of SAMSON + 26. North of Natick Marine moorings 100 ft.				
Monitoring ID #	TIME	DEPTH (ft)	AVE TURBIDITY (NTUs)	NOTES
063008-4-1-2	12:15	2.2	6.7	GPS Trimble down
063008-4-1-4	12:15	4	6.7	" "
063008-4-1-7	12:15	7	7.2	" "
AVERAGE TURBIDITY:				

[illegible]

TURBIDITY INCREASE*:

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT: New Bedford Harbor Phase III dredging Top of CAD Dredge Water Quality Monitoring Form
 JOB NUMBER: 06015-005-021
 DATE: 6/30/08
 MONITORS: SK, JER, GCD
 WEATHER CONDITIONS: South wind - 10 knots clear 80's
 WIND:
 PRIOR STORM EVENTS:
 DREDGE UPDATE:
 TYPE OF WATER QUALITY MONITORING:



UP-CURRENT

TIME: 14:25
 GPS FILE NAME: N/A
 NORTHING: GPS Not working
 TIDAL STAGE:

NUMBER OF HOURS OF DREDGING: 6
 DISTANCE FROM DREDGE/SILT CURTAIN: 100'
 EASTING: Sample taken Directly south of Dredge
 WATER DEPTH: 10'

Monitoring ID #	TIME	DEPTH (ft)	AVE TURBIDITY (NTUs)	NOTES
063008-06-1-2	14:25	2	2.7	
063008-06-1-5	14:25	5	2.8	
063008-06-1-8	14:25	8	3.1	

AVERAGE TURBIDITY:

DOWN-CURRENT

TIME: 2:20 or 14:20
 GPS FILE NAME: N/A
 NORTHING: GPS Not working
 TIDAL STAGE:

NUMBER OF HOURS OF DREDGING: GCD 14:25 = 6 hrs
 DISTANCE FROM DREDGE/SILT CURTAIN: 175' ±
 EASTING: Sample taken NW of Dredge site
 WATER DEPTH: 7

Monitoring ID #	TIME	DEPTH (ft)	AVE TURBIDITY (NTUs)	NOTES
063008-06-9-1	14:20	2	3.0	
063008-06-9-2	14:20	2	1.5	
063008-06-9-4	14:20	4	3.0	
063008-06-9-5	14:20	5	3.7	

AVERAGE TURBIDITY:

TURBIDITY INCREASE*:

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

DATE: 6/30/08

MONITORS: Gray & JELINE

WEATHER CONDITIONS: Overcast

WIND: 10 mph

PRIOR STORM EVENTS: rain last night

DREDGE UPDATE:

TYPE OF WATER QUALITY MONITORING:



<div style="display: flex; justify-content: space-between;"> GPS down UP-CURRENT </div>				
TIME: 16:10	NUMBER OF HOURS OF DREDGING: 8			
GPS FILE NAME: N/A	DISTANCE FROM DREDGE/SILT CURTAIN: N/A			
NORTHING: N/A	EASTING: N/A			
TIDAL STAGE: Flood	WATER DEPTH: 10			
South of Dredge. North of Netick Mine				
Monitoring ID #	TIME	DEPTH (ft)	AVE TURBIDITY (NTUs)	NOTES
063008-08-1-2	16:10	2	3.0	
063008-08-1-5	16:10	5	4.5	
063008-08-1-8	16:10	8	5.5	
AVERAGE TURBIDITY:				

[illegible]

TURBIDITY INCREASE*:

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity



TIME: 0646
GPS FILE NAME: N/A
NORTHING: 2695870
TIDAL STAGE: Flooding

TIME OF DISPOSAL: 6:42
DISTANCE FROM DISPOSAL LOCATION: 200 ft
EASTING: 814901
WATER DEPTH: 410'

Monitoring ID #	TIME	DEPTH (ft)	AVG TURBIDITY (NTUs)	NOTES
070308-00-1-2	0645	@ 2	0.0	
070308-00-1-20	0646	20	0.3	
070308-00-1-38	0647	38	2.2	

TIME: 0650
GPS FILE NAME: 070308-d1-00
NORTHING: ~~2696130~~ 2696130
TIDAL STAGE: Flood

TIME OF DISPOSAL: 0642
DISTANCE FROM DISPOSAL LOCATION: @ location
EASTING: ~~814256~~ 814256
WATER DEPTH: 41 Feet

[illegible]

TIME: 0655
GPS FILE NAME: 070308
NORTHING: 2696301
TIDAL STAGE: Flood

TIME OF DISPOSAL: 0642
DISTANCE FROM DISPOSAL LOCATION: 200'
EASTING: 814907
WATER DEPTH: 12'

[illegible]

TURBIDITY INCREASE*:

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT: NBH - Dredge CAD II

Dredge Water Quality Monitoring Form

JOB NUMBER: 6615.005.01

DATE: 7/3/08

MONITORS: Jen Martino + Warren B.

WEATHER CONDITIONS: Sunny, Warm, ~75°F

WIND: Slight breeze

PRIOR STORM EVENTS: Rain

DREDGE UPDATE: ~~empty~~

TYPE OF WATER QUALITY MONITORING: Turbidity - up/down current + disposal



UP-CURRENT

TIME: 0840

NUMBER OF HOURS OF DREDGING: 02

GPS FILE NAME: 070308-02-1

DISTANCE FROM DREDGE/SILT CURTAIN: 200'

NORTHING: 2696088

EASTING: 813597

TIDAL STAGE: Flood

WATER DEPTH: 11'

Monitoring ID #	TIME	DEPTH (ft)	AVE TURBIDITY (NTUs)	NOTES
070308-02-1-2	0840	2.0	3.2	
070308-02-1-6	0842	6.0	2.9	
070308-02-1-10	0843	10.0	37.0	

AVERAGE TURBIDITY:

DOWN-CURRENT

TIME: 0845

NUMBER OF HOURS OF DREDGING: 02

GPS FILE NAME: 070308-02-9

DISTANCE FROM DREDGE/SILT CURTAIN: 200'

NORTHING: 2696618

EASTING: 815759

TIDAL STAGE: Flood

WATER DEPTH: 10'

Monitoring ID #	TIME	DEPTH (ft)	AVE TURBIDITY (NTUs)	NOTES
070308-02-9-2	0845	2.0	6.4	
070308-02-9-5	0846	5.0	5.8	
070308-02-9-8	0847	8.0	5.8	

AVERAGE TURBIDITY:

TURBIDITY INCREASE*:

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

TYPE OF WATER QUALITY MONITORING: Turbidity WQ - up + down current

WATER DEPTH: 9.5'

AVERAGE TURBIDITY: 0.0 NTU

WATER DEPTH: 10'

AVERAGE TURBIDITY: 4.5 NTU

2008 WQ Monitoring Form

PROJECT: NBH - Dredge CAO II Top of CAO

JOB NUMBER: 0615.005.01

DATE: 7/3/00

DISPOSAL EVENT: d2 - mud cat

MONITORS: 1m + WB

WEATHER CONDITIONS: gusty winds! warm, smny 80°F

WIND: Gusty, strong

PRIOR STORM EVENTS: N/A



UP-CURRENT

TIME: 1220

TIME OF DISPOSAL: 1220

GPS FILE NAME: 070308-d2-06-1

DISTANCE FROM DISPOSAL LOCATION: 200'

NORTHING: 2696303

EASTING: 814738

TIDAL STAGE: Ebb

WATER DEPTH: 18'

Monitoring ID #	TIME	DEPTH (ft)	AVG TURBIDITY (NTUs)	NOTES
070308-06-1-2	1220	2.0	1.5] extremely high winds
070308-06-1-8	1222	8.0	1.8	
070308-06-1-16	1223	16.0	2.0	

AVERAGE TURBIDITY:

DISPOSAL LOCATION

(mud cat)

TIME: 1230

TIME OF DISPOSAL: 1220

GPS FILE NAME: 070308-d2-06-4

DISTANCE FROM DISPOSAL LOCATION: @ location

NORTHING: 2696210

EASTING: 814762

TIDAL STAGE: Ebb

WATER DEPTH: 40'

Monitoring ID #	TIME	DEPTH (ft)	AVG TURBIDITY (NTUs)	NOTES
070308-d2-06-3	1230	2.0	11.0] extremely high winds / current
070308-d2-06-18	1231	18.0	40.5	
070308-d2-06-36	1232	36.0	5.4	

AVERAGE TURBIDITY:

2008 WQ Disposal Monitoring Form

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity



PROJECT: NBH - Dredge CAD II - Top of CAD

JOB NUMBER: 6615-005-01

DATE: 7/3/08

MONITORS: JM + WB

WEATHER CONDITIONS: Gusty winds! Sunny, warm - 80°F

WIND: GUSTY! Very strong

PRIOR STORM EVENTS: N/A

DREDGE UPDATE: 06 hr. (dumped mud cat, SE-104)

TYPE OF WATER QUALITY MONITORING: WQ + turbidity - up + down current

UP-CURRENT

TIME: 1330

GPS FILE NAME: 070308-06-1

NORTHING: 2696672

TIDAL STAGE: Ebb

NUMBER OF HOURS OF DREDGING: 07

DISTANCE FROM DREDGE/SILT CURTAIN: 200'

EASTING: 815716

WATER DEPTH: 10'

Monitoring ID #	TIME	DEPTH (ft)	AVE TURBIDITY (NTUs)	NOTES
070308-06-1-2	1330	2.0	6.3	
070308-06-1-	1332	5.0	5.7	
070308-06-1-	1333	8.0	4.3	

AVERAGE TURBIDITY:

DOWN-CURRENT

TIME: 1335

GPS FILE NAME: 070308-07-9

NORTHING: 2696140

TIDAL STAGE: Ebb

NUMBER OF HOURS OF DREDGING: 07

DISTANCE FROM DREDGE/SILT CURTAIN: 200'

EASTING: 815381

WATER DEPTH: 8'

Monitoring ID #	TIME	DEPTH (ft)	AVE TURBIDITY (NTUs)	NOTES
070308-07-9-2	1335	2.0	4.6	
070308-07-9-	1336	4.0	5.1	
070308-07-9-	1337	6.0	5.1	

AVERAGE TURBIDITY:

TURBIDITY INCREASE*:

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT: NBH - Dredge - Top of CAP Cell II

Dredge Water Quality Monitoring Form

JOB NUMBER: 6615.005.01

DATE: 07/03/08

MONITORS: JM + WB

WEATHER CONDITIONS: Sunny / Windy / 80°F

WIND: Windy

PRIOR STORM EVENTS: N/A

DREDGE UPDATE: 09 hr of dredge (using small bucket - filling mud cat)

TYPE OF WATER QUALITY MONITORING: turbidity only



UP-CURRENT

TIME: 0050 1540

GPS FILE NAME: 070308-09-1

NORTHING:

TIDAL STAGE: Flood

NUMBER OF HOURS OF DREDGING: 09

DISTANCE FROM DREDGE/SILT CURTAIN: 200'

EASTING:

WATER DEPTH: 10'

Monitoring ID #	TIME	DEPTH (ft)	AVE TURBIDITY (NTUs)	NOTES
070308-09-1-2	1545	2	1.9	
070308-09-1-5	1546	5	1.6	
070308-09-1-8	1547	8	9.0	

AVERAGE TURBIDITY:

DOWN-CURRENT

TIME: 0050 1555

GPS FILE NAME: 070308-09-9

NORTHING:

TIDAL STAGE: Flood

NUMBER OF HOURS OF DREDGING: 09

DISTANCE FROM DREDGE/SILT CURTAIN: 200'

EASTING:

WATER DEPTH: 10'

Monitoring ID #	TIME	DEPTH (ft)	AVE TURBIDITY (NTUs)	NOTES
070308-09-9-2	0555	2	0.5	
070308-09-9-5	0556	5	7.5	
070308-09-9-8	0557	8	8.4	

AVERAGE TURBIDITY:

TURBIDITY INCREASE*:

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT: NIZHOC Tg. of CADJOB NUMBER: 6615.005.01DATE: 7/6/08DISPOSAL EVENT: 1MONITORS: J. Ray + M. Bruno

WEATHER CONDITIONS:

WIND:

PRIOR STORM EVENTS:



1/2

UP-CURRENT

TIME: 0705GPS FILE NAME: N/ANORTHING: 2695803TIDAL STAGE: FloodTIME OF DISPOSAL: 07:02DISTANCE FROM DISPOSAL LOCATION: 75 ft.EASTING: 815017WATER DEPTH: 29 ft

Monitoring ID #	TIME	DEPTH (ft)	AVG TURBIDITY (NTUs)	NOTES
070808-00-X-2	07110	2	0.5	
" -X-13	07115	13	0.6	
" -X-27	07115	27	8.2	

AVERAGE TURBIDITY:

DISPOSAL LOCATION

TIME: 07:25 07:32GPS FILE NAME: N/A N/ANORTHING: 2696278 2696198TIDAL STAGE: Flood FloodTIME OF DISPOSAL: 07:02 07:02DISTANCE FROM DISPOSAL LOCATION: 100 ft.EASTING: 815041 815040WATER DEPTH: 8 ft 27

Monitoring ID #	TIME	DEPTH (ft)	AVG TURBIDITY (NTUs)	NOTES
070808-0737-2	07137	2	2.2	6.1 @ 2 ft
070808-0737-12	07146	4	2.1	4.5 @ 12 ft
070808-0737-25	07156	6	2.0	10.2 @ 40.8 @ 25 ft.

AVERAGE TURBIDITY:

TURBIDITY INCREASE: 2008 WQI Disposal Monitoring Form

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT: NBH Dredge - CAD Cell II Top of CAD

JOB NUMBER: 6615.005.01

DATE: 7/8/08

MONITORS: J. Ray + M. Bruno

WEATHER CONDITIONS:

WIND:

PRIOR STORM EVENTS:

DREDGE UPDATE:

TYPE OF WATER QUALITY MONITORING:



UP-CURRENT

TIME: 10:05

NUMBER OF HOURS OF DREDGING: 2

GPS FILE NAME:

DISTANCE FROM DREDGE/SILT CURTAIN:

NORTHING: 2696218

EASTING: 815814

TIDAL STAGE:

WATER DEPTH: 8

Monitoring ID #	TIME	DEPTH (ft)	AVE TURBIDITY (NTUs)	NOTES
070808.1005.2	10:05	2	14.4	
070808.1005.4	10:05	4	14.3	
" 1. 6	10:05	6	14.3	

AVERAGE TURBIDITY:

DOWN-CURRENT

TIME: 10:23

NUMBER OF HOURS OF DREDGING: 2

GPS FILE NAME:

DISTANCE FROM DREDGE/SILT CURTAIN:

NORTHING: 2296887

EASTING: 815423

TIDAL STAGE: Flood

WATER DEPTH:

[illegible]

AVERAGE TURBIDITY:

TURBIDITY INCREASE*:

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT: NBH - Top of CAD 2

Dredge Water Quality Monitoring Form

JOB NUMBER: 6613.005.01

DATE: 7/11/08

MONITORS: JM + GCD

WEATHER CONDITIONS: Sunny + Hot ~ 90°F

WIND: Cool breeze

PRIOR STORM EVENTS: N/A

DREDGE UPDATE: 00 hr

TYPE OF WATER QUALITY MONITORING: up/down turbidity



UP-CURRENT

TIME: 0750

GPS FILE NAME: 071108-00-1

NORTHING:

TIDAL STAGE: Ebb

NUMBER OF HOURS OF DREDGING: 00 hrs

DISTANCE FROM DREDGE/SILT CURTAIN: 200'

EASTING:

WATER DEPTH: 3'

Monitoring ID #	TIME	DEPTH (ft)	AVE TURBIDITY (NTUs)	NOTES
071108-00-1-2	0750	2.0	1.5	
071108-00-1-3	0751	3.0	1.5	
071108-00-1-4	0752	4.0	1.5	

AVERAGE TURBIDITY:

DOWN-CURRENT

TIME: 0753

GPS FILE NAME: 071108-00

NORTHING:

TIDAL STAGE: Ebb

NUMBER OF HOURS OF DREDGING: 00 hrs

DISTANCE FROM DREDGE/SILT CURTAIN: 200'

EASTING:

WATER DEPTH: 9'

Monitoring ID #	TIME	DEPTH (ft)	AVE TURBIDITY (NTUs)	NOTES
071108-00-9-2	0753	2.0	3.5	
071108-00-9-5	0754	5.0	3.9	
071108-00-9-7	0755	7.0	6.8	

AVERAGE TURBIDITY:

TURBIDITY INCREASE*

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT: NBH-Top of CAP2 Dredge

Dredge Water Quality Monitoring Form

JOB NUMBER: 6615.005.01

DATE: 7/11/08

MONITORS: 3M + GCD

WEATHER CONDITIONS: Sunny + Warm 85°F

WIND: Slight breeze

PRIOR STORM EVENTS: N/A

DREDGE UPDATE: 02 hour of dredge

TYPE OF WATER QUALITY MONITORING: up/down current turbidity monitoring



UP-CURRENT

TIME: 1015 hrs

NUMBER OF HOURS OF DREDGING: 02 hr

GPS FILE NAME: 071108-02-1

DISTANCE FROM DREDGE/SILT CURTAIN: 200'

NORTHING:

EASTING:

TIDAL STAGE: Flood

WATER DEPTH: 9.5'

Monitoring ID #	TIME	DEPTH (ft)	AVE TURBIDITY (NTUs)	NOTES
071108-02-1-2	1015	2.0	0.0	
071108-02-1-4	1016	4.0	0.2	
071108-02-1-	1017	7.0	0.7	
			0.9/3 = 0.3	

AVERAGE TURBIDITY: 0.3 NTU

DOWN-CURRENT

TIME: 1018 hrs

NUMBER OF HOURS OF DREDGING: 02 hr

GPS FILE NAME: 071108-

DISTANCE FROM DREDGE/SILT CURTAIN: 200'

NORTHING:

EASTING:

TIDAL STAGE: Flood

WATER DEPTH: 10'

Monitoring ID #	TIME	DEPTH (ft)	AVE TURBIDITY (NTUs)	NOTES
071108-02-9-2	1018	2.0	4.0	
071108-02-9-	1019	5.0	21.5	
071108-02-9-	1020	8.0	27.7	
			532/3 = 17.73	

AVERAGE TURBIDITY: 17.73 NTU

TURBIDITY INCREASE*: 17.73 - 0.30 = 17.43 NTU

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT: NBH - Cad Cell 2 Top of CAD

Dredge Water Quality Monitoring Form

JOB NUMBER: 6615-005-01

DATE: JUNE 17, 2008

MONITORS: JOSH RAY + JEN MARTINO

WEATHER CONDITIONS: Clear, possibility of rain (damp) ~ 60°F to 70°F

WIND: Cool breeze

PRIOR STORM EVENTS: rain, thunder, lightening last night 6/16-6/17

DREDGE UPDATE:

TYPE OF WATER QUALITY MONITORING: dredging → up-current & down current monitoring



UP-CURRENT

TIME: 0700 hrs

GPS FILE NAME: 061708

NORTHING: 2696628.4

TIDAL STAGE: Ebbing

NUMBER OF HOURS OF DREDGING: 06 hrs.

DISTANCE FROM DREDGE/SILT CURTAIN: 200 feet

EASTING: 815259.8

WATER DEPTH: 5.5 feet

Monitoring ID #	TIME	DEPTH (ft)	AVE TURBIDITY (NTUs)	NOTES
061708-02-1-2	0800	2ft	0.1	2.65 DO, 7.89 pH, 124.3 ORP, 45.42 mS/cm
061708-02-1-4	0800	4ft	3.7	3.50 DO, 7.86 pH, 132.8 ORP, 45.69 41.72 mS/cm
061708-02-1-6	0800	6ft	10.3	3.21 DO, 7.83 pH, 140.8 ORP, 46.33, 42.12 mS/cm
061708-02-1-2	0800	2ft	-0.1	4.21 DO, 7.80 pH, 126.7 ORP, 45.41 mS/cm, 41.88 mS/cm
061708-02-1-2.5	0800	2.5ft	0.1	4.00 DO, 7.75 pH, 131.8 ORP, " " 54.3 % DO
061708-02-1-	0900	3.0ft	-0.1	3.54 DO, 7.70 pH, 191.4 ORP, " " 47.6 % DO

AVERAGE TURBIDITY:

DOWN-CURRENT

TIME: 0830 hrs.

GPS FILE NAME: 061708

NORTHING: 2695752.3

TIDAL STAGE: Ebbing

NUMBER OF HOURS OF DREDGING: 06 hrs.

DISTANCE FROM DREDGE/SILT CURTAIN: 200 feet

EASTING: 815300.1

WATER DEPTH: 34 feet

Monitoring ID #	TIME	DEPTH (ft)	AVE TURBIDITY (NTUs)	NOTES
061708-02-9-2	0850	2ft	13.9	1.74 DO, 7.82 pH, 179.4 ORP, 45.98 mS/cm, 41.75 mS/cm
061708-02-9-5	0850	5ft	22.3	2.30 DO, 7.80 pH, 183.4 ORP, 46.43 mS/cm, 41.8 mS/cm
061708-02-9-9	0850	9ft	35.5	2.20 DO, 7.79 pH, 195.1 ORP, 46.24 mS/cm, 41.97 mS/cm
061708-02-9-2	0900	2ft	0.6	2.82 DO, 7.82 pH, 197.9 ORP, 45.72 mS/cm, 41.65 mS/cm
061708-02-9-3.5	0900	3.5ft	0.6	2.58 DO, 7.81 pH, 205.1 ORP, 45.89 mS/cm, 41.76 mS/cm
061708-02-9-5	0900	5ft	0.6	2.80 DO, 7.81 pH, 211.9 ORP, 45.91 mS/cm, 41.78 mS/cm
061708-02-9-2	0900	2ft	1.4	1.79 DO, 7.75 pH, 257.8 ORP, " " 25.7 % DO
061708-02-9-15	0900	15ft	0.1	2.08 DO, 7.66 pH, 287.5 ORP, " " 28.0 % DO
061708-02-9-32	0900	32ft	1.5	2.24 DO, 7.64 pH, 314.8 ORP, 27.5 % DO

AVERAGE TURBIDITY:

TURBIDITY INCREASE*:

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT: NBH - Top of CAD Cell 2

Dredge Water Quality Monitoring Form

JOB NUMBER: 0615.DOS.01

DATE: June 17, 2009

MONITORS: Jen Martino & Josh Ray

WEATHER CONDITIONS: Sunny and 70°F - Cool Breeze

WIND: Cool Breeze

PRIOR STORM EVENTS: Rain/thunder & lightning the night before

DREDGE UPDATE: 08 hr. NDW using SCOW "SLO3"

TYPE OF WATER QUALITY MONITORING: Up-current & downcurrent readings - turbidity ~ 200' from barge



UP-CURRENT

TIME: 15:58p ~ 1600 hrs

NUMBER OF HOURS OF DREDGING: 08 hrs.

GPS FILE NAME: 061708-08-1

DISTANCE FROM DREDGE/SILT CURTAIN: 200 feet

NORTHING: 2695760.15

EASTING: 815312.86

TIDAL STAGE: Flood (low to high)

WATER DEPTH: 36 feet

Monitoring ID #	TIME	DEPTH (ft)	AVE TURBIDITY (NTUs)	NOTES
061708-08-1-02	1600	2 ft.	0.0	5.14 DO, 7.79 pH, 111.5 ORP, 68.1 DO%
061708-08-1-16	1606	16 ft.	0.1	3.91 DO, 7.66 pH, 207.8 ORP, 39.9 DO%
061708-08-1-34	1600	34 ft.	0.7	2.53 DO, 7.56 pH, 253.9 ORP, 31.9 DO%
AVERAGE TURBIDITY: 0.26				

DOWN-CURRENT

TIME: 1600 hrs.

NUMBER OF HOURS OF DREDGING: 08 hrs.

GPS FILE NAME: 061708-08-9

DISTANCE FROM DREDGE/SILT CURTAIN: 200 feet

NORTHING: 2696535.8

EASTING: 815236.7

TIDAL STAGE: Flood (low to high)

WATER DEPTH: 8.0 feet

Monitoring ID #	TIME	DEPTH (ft)	AVE TURBIDITY (NTUs)	NOTES
061708-08-9-2.0	1600	2.0	1.5	1.64 DO, 7.76 pH, 216.9 ORP, 20.6 DO%
061708-08-9-4.0	1600	4.0	1.8	1.65 DO, 7.78 pH, 225.4 ORP, 23.4 DO%
061708-08-9-6.0	1600	6.0	0.7	1.96 DO, 7.79 pH, 220.4 ORP, 26.3 DO%
AVERAGE TURBIDITY: 1.3				

TURBIDITY INCREASE*: _____

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT: NBH-CAD Cell 2 - Top of CAD

JOB NUMBER: 6615.005.01

DATE: 6/18/08

DISPOSAL EVENT: Dumping of "Mudcat" into CAD Cell 1

MONITORS: Jen Martino & Josh Ray

WEATHER CONDITIONS: Sunny, clear, 70°F

WIND: None

PRIOR STORM EVENTS: N/A



UP-CURRENT

TIME: 0700 hrs.

GPS FILE NAME: 061808-00-1

NORTHING: 2695527.8

TIDAL STAGE: Flood (high to low)

TIME OF DISPOSAL: 0730 hrs.

DISTANCE FROM DISPOSAL LOCATION: 200 feet

EASTING: 814813.8

WATER DEPTH: 33 feet

Monitoring ID #	TIME	DEPTH (ft)	AVG TURBIDITY (NTUs)	NOTES
061808-00-1-2.0	0700	2.0	0.2	3.3 DO, 7.82 pH, 127.2 ORP, 20.38°C, 48.6 DO%
061808-00-1-16.0	0710	16.0	0.0	2.65 DO, 7.8 pH, 136.2 ORP, 33.8 DO%, 19.84°C
061808-00-1-31.0	0720	31.0	0.5	2.30 DO, 7.78 pH, 141.9 ORP, 19.47°C, 28.4 DO%

AVERAGE TURBIDITY:

DISPOSAL LOCATION

TIME: 0800 hrs.

GPS FILE NAME: 061808-D1-00

NORTHING: 2695922.1

TIDAL STAGE: Flood (low to high)

TIME OF DISPOSAL: 0730 hrs.

DISTANCE FROM DISPOSAL LOCATION: @ location

EASTING: 814916.8

WATER DEPTH: 48 feet

Monitoring ID #	TIME	DEPTH (ft)	AVG TURBIDITY (NTUs)	NOTES
061808-D1-00-2.0	0800	2.0	0.5	1.21 DO, 7.86 pH, 150.8 ORP, 20.47°C, 20.3 DO%
061808-D1-00-23.0	0810	23.0	0.0	1.64 DO, 7.81 pH, 173.5 ORP, 20.05°C, 26.3 DO%
061808-D1-00-46.0	0820	46.0	48.7	1.8 DO, 7.76 pH, 180.0 ORP, 19.56°C, 20.4 DO%

AVERAGE TURBIDITY:

TURBIDITY INCREASE: 2008 WQ Disposal Monitoring Form

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT: NBH-CAD Cell 2-Top of CAD

JOB NUMBER: 6615.005.01

DATE: June 18, 2008

DISPOSAL EVENT: D2 of day - Dumping of mud CAT

MONITORS: Jen Martino + Josh Ray

WEATHER CONDITIONS: Sunny, Breezy, 70°F

WIND: 1001 Breezy

PRIOR STORM EVENTS: N/A



UP-CURRENT

TIME: 1130 hrs

GPS FILE NAME: 061808-04-1

NORTHING: 2696228.0

TIDAL STAGE: Ebb (High to low)

TIME OF DISPOSAL: 1130 hrs

DISTANCE FROM DISPOSAL LOCATION: 100 feet

EASTING: 8149714.2

WATER DEPTH: 13 feet

Monitoring ID #	TIME	DEPTH (ft)	AVG TURBIDITY (NTUs)	NOTES
061808-04-1-2	1130	2.0	0.4	1.45 DO, 7.34 pH, 245.6 ORP, 21.16°C, 20.4 D=2.
061808-04-1-7	1140	7.0	0.5	
061808-04-1-11	1145	11.0	0.3	

AVERAGE TURBIDITY:

DISPOSAL LOCATION

TIME: 1145 hrs

GPS FILE NAME: 061808-D2-04

NORTHING: 2695948.0

TIDAL STAGE: Ebb (High to low)

TIME OF DISPOSAL: 1130 hrs

DISTANCE FROM DISPOSAL LOCATION: @ location

EASTING: 814912.2

WATER DEPTH: 44 feet

Monitoring ID #	TIME	DEPTH (ft)	AVG TURBIDITY (NTUs)	NOTES
061808-D2-04-2	1150	2.0 ft	1.0	
061808-D2-04-20	1155	20.0 ft	0.1	
061808-D2-04-40	1200	40.0 ft	25.5	

AVERAGE TURBIDITY:

TIME: 1205 hrs.
GPS FILE NAME: 061808-04-9
NORTHING: 2695393.7
TIDAL STAGE: ~~Mean~~ Ebb (High to low)

TIME OF DISPOSAL: 1130 hrs.
DISTANCE FROM DISPOSAL LOCATION:
EASTING: 8149541
WATER DEPTH: 32 feet

[illegible]

TURBIDITY INCREASE*:

2008 WQ Disposal Monitoring Form

[illegible][illegible]

PROJECT: NBH

Dredge Water Quality Monitoring Form

JOB NUMBER: 16615.005

DATE: 6/25/2008

MONITORS: MB JK

WEATHER CONDITIONS: Cloudy

WIND: calm

PRIOR STORM EVENTS:

DREDGE UPDATE:

TYPE OF WATER QUALITY MONITORING:

Low 5:10

High 11:52

Low 17:07



UP-CURRENT

TIME: 0730

GPS FILE NAME: 062308.D-1-0

NORTHING: 245893.32

TIDAL STAGE: Flood

NUMBER OF HOURS OF DREDGING: During

DISTANCE FROM DREDGE/SILT CURTAIN: -

EASTING: 814760.18

WATER DEPTH: 40

Monitoring ID #	TIME	DEPTH (ft)	AVE TURBIDITY (NTUs)	NOTES
062308.D-1-9.38	0730	38	0.2	201 7.79 224.3
062308.D-1-9.2	0732	2	-0.4	2.19 7.80 225.1
062308.D-1-9.10	0734	20	-0.5	2.46 7.79 228.4

AVERAGE TURBIDITY:

DOWN-CURRENT

TIME: 0725

GPS FILE NAME: 062308.D-1-0

NORTHING: 26963655.88

TIDAL STAGE: Low > High

NUMBER OF HOURS OF DREDGING: During

DISTANCE FROM DREDGE/SILT CURTAIN: -

EASTING: 814815.11

WATER DEPTH: 11'

Monitoring ID #	TIME	DEPTH (ft)	AVE TURBIDITY (NTUs)	NOTES
062308.D-1-0.9	0725	9	-0.3	DO PH ORP 3.29 7.87 164.9
062308.D-1-0.2	0726	2	-0.2	2.96 7.85 171.8
062308.D-1-0.5.5	0727	5.5	-0.2	2.95 7.84 175.6

AVERAGE TURBIDITY:

TURBIDITY INCREASE*:

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT: 6615.005

Dredge Disposal Water Quality Monitoring Form

JOB NUMBER:

DATE: 6/23/08

DISPOSAL EVENT:

MONITORS:

WEATHER CONDITIONS:

WIND:

PRIOR STORM EVENTS:



UP-CURRENT

TIME: 1330

TIME OF DISPOSAL: 1335

GPS FILE NAME:

DISTANCE FROM DISPOSAL LOCATION: Approx. 200 ft - p current

NORTHING: 2696245

EASTING: 814859

TIDAL STAGE: Ebb

WATER DEPTH: 16

Monitoring ID #	TIME	DEPTH (ft)	AVG TURBIDITY (NTUs)	NOTES
062308-1201-9	13:33	19	2.2	ORP 226.5 pH 7.77 21.96°C 2.60 DO
062308D201 - 10	13:34	10	2.5	ORP 235.2 pH 7.76 22.48°C 2.85 DO
062308D201 - 2	13:36	2	1.5	ORP 239.7 pH 7.78 23.13°C 3.64 DO

AVERAGE TURBIDITY:

DISPOSAL LOCATION

TIME: 1348

TIME OF DISPOSAL: 1335

GPS FILE NAME:

DISTANCE FROM DISPOSAL LOCATION:

NORTHING: 2696072

EASTING: 814766

TIDAL STAGE: Ebb

WATER DEPTH: 46

Monitoring ID #	TIME	DEPTH (ft)	AVG TURBIDITY (NTUs)	NOTES
062308D21535-44	1:48	44	104.6	
062308D2155-21	1:50	21	1.3	ORP 301.8 pH 7.76 22.01°C 2.31 DO
062308D2155-2	1:53	2	1.1	ORP 301.6 pH 7.77 22.95°C 2.69 DO

AVERAGE TURBIDITY:

2008 WQ Disposal Monitoring Form
TURBIDITY INCREASE:

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

TIME:

1338

TIME OF DISPOSAL:

19:35

2695796

DISTANCE FROM DISPOSAL LOCATION:

Approx. 200 ft

TIDAL STAGE:

1996

EASTING:

81471

WATER DEPTH:

36ft

AVERAGE TURBIDITY:

TURBIDITY INCREASE*:

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT: NBH - TOP OF CAD

JOB NUMBER: 6613.005.01

DATE: 6/24/00

DISPOSAL EVENT: PI of Mudcat

MONITORS: Ben Martino + Josh Ray

WEATHER CONDITIONS: Clear, Cool, Overcast w 65°F

WIND: cool breeze

PRIOR STORM EVENTS: rain



UP-CURRENT

TIME: 0728 hrs

GPS FILE NAME: 062408 - 00 - 1

NORTHING: 2695778

TIDAL STAGE: Flood

TIME OF DISPOSAL: 07:28

DISTANCE FROM DISPOSAL LOCATION: 200 ft.

EASTING: 814772

WATER DEPTH: 42

Monitoring ID #	TIME	DEPTH (ft)	AVG TURBIDITY (NTUs)	NOTES
062408-00-1-82	07:28	2	0.0	
062409-00-1-20	07:30	20	0.2	
062409-00-1-40	07:32	40	0.7	
		Total: $0.9/3 = 0.3$		
AVERAGE TURBIDITY: 0.3 NTU				

AVERAGE TURBIDITY: 0.3 NTU

DISPOSAL LOCATION

TIME: 0745 hrs

GPS FILE NAME: 062408-D1-00

NORTHING: 2696154.8

TIDAL STAGE: Flood

TIME OF DISPOSAL: 0728 hrs

DISTANCE FROM DISPOSAL LOCATION: ① location

EASTING: 4778

WATER DEPTH: 31 Feet

Monitoring ID #	TIME	DEPTH (ft)	AVG TURBIDITY (NTUs)	NOTES
0624DB-DI-00-2	0745	2.0	2.6	
0624DB-DI-00-16	0750	16.0	3.4	
0624DB-DI-00-29	0755	29.0	58.7	
		Total:	64.7 / 3 = 21.4	

AVERAGE TURBIDITY: 21.4 NTU

PROJECT: N&H - Top of CAD (Dredge + Disposal)JOB NUMBER: 6615-005.01DATE: 6/26/08DISPOSAL EVENT: D1 of Mudcat (05 hrs of dredging)MONITORS: Jen Martino + Warren B.WEATHER CONDITIONS: overcast, muggy, ~75°FWIND: slight breezePRIOR STORM EVENTS: N/A - rainUP-CURRENTTIME: 1500GPS FILE NAME: 062608-05-1NORTHING: 2696215TIDAL STAGE: EbbTIME OF DISPOSAL: 1505DISTANCE FROM DISPOSAL LOCATION: 200 feetEASTING: 814863WATER DEPTH: 20 feet

Monitoring ID #	TIME	DEPTH (ft)	AVG TURBIDITY (NTUs)	NOTES
062608-05-1-2	1500	2	0.1	
062608-05-1-9	1501	9	0.2	
062608-05-1-18	1503	18	7.1	

AVERAGE TURBIDITY:

DISPOSAL LOCATIONTIME: 1515GPS FILE NAME: 062608-D1-05mNORTHING: 2696109TIDAL STAGE: EbbTIME OF DISPOSAL: 1510DISTANCE FROM DISPOSAL LOCATION: @ locationEASTING: 814692WATER DEPTH: 47 feet

Monitoring ID #	TIME	DEPTH (ft)	AVG TURBIDITY (NTUs)	NOTES
062608-D1-05-2	1515	2	2.0	
062608-D1-05-	1517	17	0.9	
	1520	45	119.5	
		23	2.3	
total = 124.7 / 4 = 31.1 NTU				119.5 2.0 + 2.3 31123.8 41.2 NTU

AVERAGE TURBIDITY:

TIME: 1510

NORTHING: 2695788

TIDAL STAGE: Ebb

TIME OF DISPOSAL: 1510

DISTANCE FROM DISPOSAL LOCATION: 200 feet

EASTING: 814771

WATER DEPTH: 30 feet

[illegible]

AVERAGE TURBIDITY:

TURBIDITY INCREASE*:

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

TIME: 08:50

08:45

DISTANCE FROM DISPOSAL LOCATION: 150 ft.

EASTING: 814695

WATER DEPTH: 32

AVERAGE TURBIDITY:

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT: NBH Dredge CAD Cell II - Top of CAD
 JOB NUMBER: 6615.005.01
 DATE: 7/8/08
 DISPOSAL EVENT:
 MONITORS: J. Ray + M. Bruno
 WEATHER CONDITIONS:
 WIND:
 PRIOR STORM EVENTS:

1/2



UP-CURRENT

TIME: 12:00
 GPS FILE NAME: N/A
 NORTHING: 26957351
 TIDAL STAGE:

TIME OF DISPOSAL:
 DISTANCE FROM DISPOSAL LOCATION: 75
 EASTING: 814944-999
 WATER DEPTH: 16

Monitoring ID #	TIME	DEPTH (ft)	AVG TURBIDITY (NTUs)	NOTES
070808-1200-2	12:00	2	0.5	
" " . 7	12:00	7	0.2	
" " . 14	12:00	14	0.2	

AVERAGE TURBIDITY:

DISPOSAL LOCATION DOWN C-CURRENT

TIME: 12:10
 GPS FILE NAME: N/A
 NORTHING: 814930
 TIDAL STAGE:

TIME OF DISPOSAL:
 DISTANCE FROM DISPOSAL LOCATION: 150
 EASTING: 269333
 WATER DEPTH: 2

Monitoring ID #	TIME	DEPTH (ft)	AVG TURBIDITY (NTUs)	NOTES
070808-1210-2	12:10	2	1.2	
" " . 6	12:10	6	1.5	
" " . 10	12:10	10	1.9	

AVERAGE TURBIDITY:

TURBIDITY INCREASE:

2008 WQ Disposal Monitoring Form

PROJECT: NBH - Top of CAD 2JOB NUMBER: 6615.005.01DATE: 7/11/08DISPOSAL EVENT: D1 of SE-103 (20 hr of dredge)MONITORS: JM4 GCDWEATHER CONDITIONS: Sunny, Hot - 75°FWIND: Cool breezePRIOR STORM EVENTS: N/AUP-CURRENTTIME: 0650 hrsGPS FILE NAME: 071108-00-1

NORTHING:

TIDAL STAGE: EbbTIME OF DISPOSAL: 0650 hrsDISTANCE FROM DISPOSAL LOCATION: 200'

EASTING:

WATER DEPTH: 30'

Monitoring ID #	TIME	DEPTH (ft)	AVG TURBIDITY (NTUs)	NOTES
071108-00-1-2	0650	2.0	0.6	
071108-00-1-14	0651	14.0	1.3	
071108-00-1-28	0653	28.0	6.8	

AVERAGE TURBIDITY:

DISPOSAL LOCATIONTIME: 0657GPS FILE NAME: 071108-d1-00 (SE-103)

NORTHING:

TIDAL STAGE: EbbTIME OF DISPOSAL: 0650DISTANCE FROM DISPOSAL LOCATION: @ location

EASTING:

WATER DEPTH: 32'

Monitoring ID #	TIME	DEPTH (ft)	AVG TURBIDITY (NTUs)	NOTES
071108-d1-00-2	0657	2.0	9.0	
071108-d1-00-15	0658	15.0	10.6	
071108-d1-00-30	0659	30.0	45.9	

AVERAGE TURBIDITY:

TIME: 0655 hrs
GPS FILE NAME: 071108-00-9
NORTHING:
TIDAL STAGE: ebb

TIME OF DISPOSAL: 0550 hrs
DISTANCE FROM DISPOSAL LOCATION: 200'
EASTING:
WATER DEPTH: 31'

[illegible]

TURBIDITY INCREASE²:

2008 WQ Disposal Monitoring Form



PROJECT: NBH- Top of CAP 2
 JOB NUMBER: 6615-005-01
 DATE: 7/13/08
 DISPOSAL EVENT: D1 of SE-103, SE-104, mud cat
 MONITORS: 1M+JR+6CD
 WEATHER CONDITIONS: Sunny, warm, 80°F
 WIND: Slight breeze
 PRIOR STORM EVENTS: N/A

UP-CURRENT

TIME: 0945 hrs
 GPS FILE NAME: 071508-00-1
 NORTHING: 2696380
 TIDAL STAGE: ebb

TIME OF DISPOSAL: 0700-0915 hrs
 DISTANCE FROM DISPOSAL LOCATION: 200'
 EASTING: 814731
 WATER DEPTH: 13.0'

Monitoring ID #	TIME	DEPTH (ft)	AVG TURBIDITY (NTUs)	NOTES
071508-00-1-2	0945	2.0	-0.2	
071508-00-1-5	0946	5.0	0.0	
071508-00-1-11	0947	11.0	0.5	

AVERAGE TURBIDITY:

DISPOSAL LOCATION

TIME: 0925 hrs
 GPS FILE NAME: 071508-d01-00
 NORTHING: 2695980
 TIDAL STAGE: ebb

TIME OF DISPOSAL: 0700-0915 hrs
 DISTANCE FROM DISPOSAL LOCATION: @ location
 EASTING: 814692
 WATER DEPTH: 40'

Monitoring ID #	TIME	DEPTH (ft)	AVG TURBIDITY (NTUs)	NOTES
071508-d1-00-2	0925	2.0	-0.4	
071508-d1-00-	0926	18.0	0.3	
071508-d1-00-	0927	38.0	109.7	

AVERAGE TURBIDITY:

PROJECT: Steamship Authority
 JOB NUMBER: 6588.006
 DATE: 7/31/08
 MONITORS: 21
 WEATHER CONDITIONS: 75°F Foggy Heavy
 WIND: Calm
 PRIOR STORM EVENTS:
 DREDGE UPDATE: 5th Annual Report yesterday 7/30/08
 TYPE OF WATER QUALITY MONITORING: DREDGE / DISPOSAL

Dredge Water Quality Monitoring Form



UP-CURRENT									
Monitoring ID #	NORTHING/ EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTU)	GPS FILE NAME	TIDAL STAGE	TYPE OF WQM & DISTANCE FROM LOCATION	NUMBER OF HOURS DREDGING
	2691677	0710	14	2	-0.4	N/A	Flood	200ft	0
	818167	0710	14	6	-0.4				
		0710	14	12	-0.3				
AVERAGE TURBIDITY:					-0.36				
	2691970	0915	20	2	0.1	N/A	Ebb	200ft.	2
	817884	0915	20	9	0.7				
		0915	20	18	25.8				
AVERAGE TURBIDITY:					3.86				
	2691903	11:10	18	2	0.1	N/A	Ebb	125ft	4
	817873	11:11	18	9	0.5				
		11:12	18	16	1.1				
AVERAGE TURBIDITY:									
	2691598	1416	8	2	0.1	N/A	Flood Ebb Flood	100ft.	7
	818281	1420	8	4	-0.3				
		1421	8	6	0.7				
AVERAGE TURBIDITY:									
	2691666	16:45	8	2	3.4	N/A	Flood	175ft.	9
	818223	16:45	8	4	3.2				
		16:45	8	6	0.7				
AVERAGE TURBIDITY:									

DOWN-CURRENT									
Monitoring ID #	NORTHING/ EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	DISTANCE FROM DREDGE/SILT CURTAIN	NUMBER OF HOURS DREDGING
	2691944	0720	21	2	0.0	N/A	Flood	175ft	0
		0720	21	9	0.2				
	817885	0720	21	18	0.4				
TURBIDITY INCREASE:					0.56				
	2691605	0925	8	2	-0.2	N/A	Ebb	200ft.	2
		0925	8	4	-0.4				
	818368	0925	8	6	0.0				
TURBIDITY INCREASE:									
	2691606	11:18	6	-0.35	2ft	N/A	Ebb	200ft.	4
		11:20	6	-0.54	3ft				
	818368	11:21	6	0.04	4ft				
TURBIDITY INCREASE:									
	2691944	1428	17	2	4.5	N/A	Flood Ebb Flood	200ft.	7
		1427	17	8	4.7				
	817885	1428	17	15	6.6				
TURBIDITY INCREASE:									
	2692021	1635	15.17	2	0.1	N/A	Flood	150ft	9
		1635	17	8	0.7				
	817961	1635	17	15	0.8				
TURBIDITY INCREASE:									

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT: Steamship Authority
 JOB NUMBER: 6588.006
 DATE: 8/4/08
 MONITORS: 152/EWP
 WEATHER CONDITIONS: 73°F
 WIND: 10 mph NW
 PRIOR STORM EVENTS:
 DREDGE UPDATE:
 TYPE OF WATER QUALITY MONITORING: DREDGE / DISPOSAL

Dredge Water Quality Monitoring Form



UP-CURRENT

Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	TYPE OF WQM & DISTANCE FROM LOCATION	NUMBER OF HOURS DREDGING
	2696189,	12:00	40	2	-0.7				
	814743	12:02	40	21	0.1	N/A	Ebb	75 ft	0
		12:03	40	39	6.8				
AVERAGE TURBIDITY:									

AVERAGE TURBIDITY:

AVERAGE TURBIDITY:

AVERAGE TURBIDITY:

AVERAGE TURBIDITY:

DOWN-CURRENT

Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	DISTANCE FROM DREDGE/SILT CURTAIN	NUMBER OF HOURS DREDGING
	2695600,	12:35	34	2	-0.2				
	814733	12:37	34	16	-0.4	N/A	Ebb	150 ft	0
		12:40	34	32	2.2				
TURBIDITY INCREASE:									

TURBIDITY INCREASE:

TURBIDITY INCREASE:

TURBIDITY INCREASE:

TURBIDITY INCREASE:

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT: Steamship Authority
 JOB NUMBER: 6588.006
 DATE: 8/5/08
 MONITORS: SER/MR
 WEATHER CONDITIONS: Sunny
 WIND: 1-2 knots from N
 PRIOR STORM EVENTS:
 DREDGE UPDATE:
 TYPE OF WATER QUALITY MONITORING: DREDGE + DISPOSAL



UP-CURRENT									
Monitoring ID #	NORTHING/ EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	TYPE OF WOM & DISTANCE FROM LOCATION	NUMBER OF HOURS DREDGING
080508-00-1-2	GPS not working	0725	6'	2'	0.0	N/A	Flood	200ft.	0
080508-00-1-3		0725	6'	3'	0.0				
080508-00-1-4		0725	6'	4'	0.8				
AVERAGE TURBIDITY:					0.293				
080508-02-1-2	2691581 818266	09:40	11'	2'	3.2	N/A	Flood	150ft.	2
080508-02-1-3		09:42	11'	5'	0.4				
080508-02-1-4		09:44	11'	9'	-0.4				
AVERAGE TURBIDITY:					1.07				
080508									
080508-04-1-2	2691995 818056	12:00	19'	2'	0.0	N/A	Ebb	200ft	4
080508-04-1-3		12:04	19'	9'	1.2				
080508-04-1-4		12:06	19'	15'	6.0				
AVERAGE TURBIDITY:					22.4				
080508-06-1-2	2691936 818019	14:20	21'	2'	1.9	N/A	Ebb	200ft	4
080508-06-1-3		14:23	21'	9'	20.2				
080508-06-1-4		14:25	21'	19'	20.8				
AVERAGE TURBIDITY:					16.23				
080508-08-1-2	2696476 814665	16:46	17'	2'	0.4	N/A	Ebb	200ft	Disposal
080508-08-1-3		16:48	17'	8'	0.7				
080508-08-1-4		16:50	17'	15'	6.0				
AVERAGE TURBIDITY:					2.5				

DOWN-CURRENT									
Monitoring ID #	NORTHING/ EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	DISTANCE FROM DREDGE/SILT CURTAIN	NUMBER OF HOURS DREDGING
080508-00-9-2	GPS not working	07:40	20'	2'	0.0	N/A	Flood	200ft	0
080508-00-9-3		07:40	20'	10'	0.0				
080508-00-9-4		07:40	20'	18'	0.0				
TURBIDITY INCREASE:					0				
080508-02-7-2	2691995	09:50	19'	2'	2.7	N/A	Flood	200ft	2
080508-02-7-3		09:52	19'	9'	1.0				
080508-02-7-4		09:54	19'	17'	1.2				
TURBIDITY INCREASE:					1.543				
080508-04-9-2	2691662	12:10	8'	2'	2.7	N/A	Ebb	150ft	4
080508-04-9-3		12:15	8'	4'	0.4				
080508-04-9-4		12:17	8'	6'	4.5				
TURBIDITY INCREASE:					-19.86				
080508-06-9-2	2691661	14:05	6'	2'	-0.4	N/A	Ebb	200ft	4
080508-06-9-3		14:07	6'	3'	1.2				
080508-06-9-4		14:10	6'	4'	1.9				
TURBIDITY INCREASE:					-15.93				
080508-08-9-2	2695612	16:43	28'	2'	0.4	N/A	Ebb	150ft	Disposal
080508-08-9-3		16:51	28'	14'	0.4				
080508-08-9-4		16:54	28'	26'	0.7				
TURBIDITY INCREASE:					-1.83				

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT: Steamship Authority
 JOB NUMBER: 6588.006
 DATE: 8/5/08
 MONITORS: JER/MB
 WEATHER CONDITIONS: Sunny
 WIND: 1-2 knots from N
 PRIOR STORM EVENTS:
 DREDGE UPDATE:
 TYPE OF WATER QUALITY MONITORING: DREDGE + DISPOSAL

Dredge Water Quality Monitoring Form



UP-CURRENT

Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTU)	GPS FILE NAME	TIDAL STAGE	TYPE OF WQM & DISTANCE FROM LOCATION	NUMBER OF HOURS DREDGING
080508-00-1-2	GPS not working	07:25	6'	2'	0.0	N/A	Flood	200ft.	0
080508-00-1-3		07:25	6'	3'	0.0				
080508-00-1-4		07:25	6'	4'	0.3				
AVERAGE TURBIDITY:					0.233				
080508-02-1-2	2691581 818266	09:40	11'	2'	3.2	N/A	Flood	150ft.	2
080508-02-1-3		09:42	11'	5'	0.4				
080508-02-1-4		09:44	11'	9'	-0.4				
AVERAGE TURBIDITY:					1.07				
080508-04-1-2	2691935 818056	12:00	19'	2'	0.0	N/A	Ebb	200ft	4
080508-04-1-3		12:09	19'	8'	1.2				
080508-04-1-17		2:06	19'	15'	6.0				
AVERAGE TURBIDITY:					22.4				
080508-06-1-2	2691936 818019	14:20	21'	2'	1.7	N/A	Ebb	200ft	4
080508-06-1-3		14:23	21'	9'	20.2				
080508-06-1-19		14:25	21'	19'	24.8				
AVERAGE TURBIDITY:					16.23				
080508-01-0-1-2	2696476 814665	16:46	17'	2'	0.4	N/A	Ebb	200ft	Disposal
080508-01-2-1-3		16:48	17'	8'	0.7				
080508-01-4-1-15		16:50	17'	15'	6.0				
AVERAGE TURBIDITY:					2.5				

DOWN-CURRENT

Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTU)	GPS FILE NAME	TIDAL STAGE	DISTANCE FROM DREDGE/SILT CURTAIN	NUMBER OF HOURS DREDGING
080508-00-0-2	Ops not working	07:40	20'	2'	0.0	N/A	Flood	200ft	0
080508-00-9-10		07:40	20'	10'	0.0				
080508-00-9-18		07:40	20'	18'	0.0				
TURBIDITY INCREASE:					0				
080508-02-9-2	2691935	09:50	19'	2'	2.7	N/A	Flood	200ft	2
080508-02-9-8		09:52	19'	9'	1.0				
080508-02-9-13		09:54	19'	17'	1.2				
TURBIDITY INCREASE:					1.563				
080508-04-9-2	2691662	12:10	8'	2'	2.7	N/A	Ebb	150ft	4
080508-04-9-4		12:15	8'	4'	0.4				
080508-04-9-6		12:17	8'	6'	4.5				
TURBIDITY INCREASE:					-19.86				
080508-06-9-2	2691661	14:05	6'	2'	-0.4	N/A	Ebb	200ft	4
080508-06-9-8		14:10	6'	3'	1.2				
080508-06-9-4		14:10	6'	4'	1.9				
TURBIDITY INCREASE:					-15.93				
080508-01-9-9-2	2695612	16:45	28'	2'	0.4	N/A	Ebb	150ft	Disposal
080508-01-11-9-13		16:57	28'	14'	0.4				
080508-01-13-9-36		16:59	28'	26'	0.7				
TURBIDITY INCREASE:					-1.28				

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT: Steamship Authority

Dredge Water Quality Monitoring Form

JOB NUMBER: 6588.006

DATE: 8/7/08

MONITORS: Jen Martino + Warren B.

WEATHER CONDITIONS: Cloudy, cold, light sprinkles - dark clouds

WIND: 15 mph - cool

PRIOR STORM EVENTS: Rain

DREDGE UPDATE: 00 hr.

TYPE OF WATER QUALITY MONITORING: DREDGE / DISPOSAL



UP-CURRENT

Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	TYPE OF WQM & DISTANCE FROM LOCATION	NUMBER OF HOURS DREDGING
080708-00-1-2	2691582 N	1001	19'	2.0'	-0.1	080708-	Flood	200'	00
080708-00-1-9		1003	19'	2.0'	-0.3	00-1-dredge			
080708-00-1-17	818083 E	1005	19'	17.0'	-0.9				
AVERAGE TURBIDITY:									
080708-02-1-2	2691574 N	1144	11'	2'	0.7	080708	Flood	200'	02
080708-02-1-5	818255 E	1145	11'	5'	-0.8				
080708-02-1-9		1145	11'	9'	0.2				
AVERAGE TURBIDITY:									
080708-04-1-2	2692061 N	1420	20'	2'	-0.7	080708	ebb	200'	04
080708-04-1-10	817789 E	1423	20'	10'	0.7				
080708-04-1-18		1424	20'	18'	-1.4				
AVERAGE TURBIDITY:									
080708-08-1-2	2691980	1710	20'	2.0	0.0	080708	ebb	200'	08
080708-08-1-10	817844	1712	20'	10.0	-0.5				
080708-08-1-18		1713	20'	18.0	-1.4				
AVERAGE TURBIDITY:									
AVERAGE TURBIDITY:									

DOWN-CURRENT

Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	DISTANCE FROM DREDGE/SILT CURTAIN	NUMBER OF HOURS DREDGING
080708-00-9-2	2691950 N	1020	15'	2.0'	0.1		Flood	200'	00
080708-00-9-9		1020	15'	9.0'	0.7				
080708-00-9-17	817763 E	1020	15'	17.0'	-1.0				
TURBIDITY INCREASE:									
080708-02-9-2	2692017 N	1210	20'	2'	-0.9	080708	Flood	200'	02
080708-02-9-10	817825 E	1210	20'	10'	-0.2				
080708-02-9-18		1211	20'	18'	1.0				
TURBIDITY INCREASE:									
080708-04-9-2	2691670 N		24'	2'	-0.3	3.1	ebb	200'	04
080708-04-9-10	817959 E		24'	10'	-0.8				
080708-04-9-18			24'	18'	0				
TURBIDITY INCREASE:									
080708-08-9-2	2691626	1715	18'	2'	-0.3	080708	ebb	200'	08
080708-08-9-10	818055	1718	18'	9'	0.0				
080708-08-9-18		1720	18'	18'	-0.0				
TURBIDITY INCREASE:									
TURBIDITY INCREASE:									

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT: Steamship Authority
 JOB NUMBER: 6588.006
 DATE: 08/07/08
 MONITORS: TM + WB
 WEATHER CONDITIONS: Sunny (62) / 70°F - 75°F
 WIND: 15 mph or less
 PRIOR STORM EVENTS: rain
 DREDGE UPDATE: dump of SEI-2000
 TYPE OF WATER QUALITY MONITORING: DREDGE / DISPOSAL

Drudge Water Quality Monitoring Form



UP-CURRENT

080708-d1-26-1-2

Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	TYPE OF WQM & DISTANCE FROM LOCATION	NUMBER OF HOURS DREDGING
080708-d1-26-1-2	2696347 N	1530	18'	2'	-0.4	080708	Ebb	200'	06
080708-d1-26-1-1	814699 E	1533	18'	9'	-0.4				
080708-d1-26-1-1		1535	18'	16'	0.0				
AVERAGE TURBIDITY:									

AVERAGE TURBIDITY:

AVERAGE TURBIDITY:

AVERAGE TURBIDITY:

AVERAGE TURBIDITY:

Disposal of SEI-2000

DOWN-CURRENT

one pocket missing from dump

nd casing
all pockets dumped

Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	DISTANCE FROM DREDGE/SILT CURTAIN	NUMBER OF HOURS DREDGING
080708-d1-26-9-2	2695733	1536	33'	2.0	-0.9	080708	Ebb	200'	06
080708-d1-26-9-15	814681	1538	33'	15.0	-1.2				
080708-d1-26-9-30		1540	33'	38.0	-1.2				
TURBIDITY INCREASE:									

TURBIDITY INCREASE:

TURBIDITY INCREASE:

TURBIDITY INCREASE:

TURBIDITY INCREASE:

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT: Steamship Authority
JOB NUMBER: 8588.006

Dredge Water Quality Monitoring Form

DATE: 8/8/08

MONITORS: JM & ME

WEATHER CONDITIONS: Sunny, clear, NO wind ~ 70°F Mid-day - cool / wind / cloudy w/ some sun

WIND: NO wind, clear skies

PRIOR STORM EVENTS: N/A

DREDGE UPDATE: 00 hr of dredge

TYPE OF WATER QUALITY MONITORING: DREDGE / DISPOSAL



UP-CURRENT

Monitoring ID #	NORTHING/ EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	TYPE OF WOM & DISTANCE FROM LOCATION	NUMBER OF HOURS DREDGING
080808-00-1-1	2691689	0715	9'	2'	-1.6	080808	Flood	200'	00
080808-00-1-5	018	0717	9'	5'	-1.4				
080808-00-1-7		0720	9'	7'	-1.4				
AVERAGE TURBIDITY:									

080808-06-1-2	2691911	1330	7'	2'	0.4	080808	Ebb	200'	06
080808-06-1-4	017688	1333	7'	4'	0.1				
080808-06-1-5		1335	7'	5'	0.0				
AVERAGE TURBIDITY:									

080808-08-1-2	2691929	1545	22'	2'	0.3	080808	Ebb	200'	08
080808-08-1-10	017964	1547	22'	10'	0.4				
080808-08-1-00		1549	22'	20'	0.2				
AVERAGE TURBIDITY:									

AVERAGE TURBIDITY:									

AVERAGE TURBIDITY:									

DOWN-CURRENT

Monitoring ID #	NORTHING/ EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	DISTANCE FROM DREDGE/SILT CURTAIN	NUMBER OF HOURS DREDGING
080808-00-9-2	2691973	0726	20'	2'	-1.7	080808	Flood	200'	00
080808-00-9-10	017648	0728	20'	10'	-1.5				
080808-00-9-18		0730	20'	18'	-0.8				
TURBIDITY INCREASE:									

080808-06-9-2	2691682	1345	8'	2'	0.6	080808	Ebb	200'	06
080808-06-9-	018398	1347	8'	4'	9.8				
080808-06-9-		1350	8'	6'	22.8				
TURBIDITY INCREASE:									

080808-08-9-2	2691683	1601	6'	2'	1.0	080808	Ebb	200'	08
080808-08-9-3	018399	1603	6'	3'	0.9				
080808-08-9-4		1605	6'	4'	0.9				
TURBIDITY INCREASE:									

TURBIDITY INCREASE:									

TURBIDITY INCREASE:									

Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT: Steamship Authority
 JOB NUMBER: 6588.006
 DATE: 8/11/08
 MONITORS: JM + JR
 WEATHER CONDITIONS: RAIN!! Thunder + lightning - late afternoon skies cleared - sun
 WIND: 10-15 mph
 PRIOR STORM EVENTS: Rain
 DREDGE UPDATE: Filling Eddie Canal
 TYPE OF WATER QUALITY MONITORING: DREDGE / DISPOSAL



UP-CURRENT

Monitoring ID #	NORTHING/ EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	TYPE OF WOM & DISTANCE FROM LOCATION	NUMBER OF HOURS DREDGING
081108-00-1-2		0850	18'	2'	3.0	081108	Ebb	200'	00
081108-00-1-10		0853	18'	10'	4.0				
081108-00-1-16		0855	18'	16'	4.5				
AVERAGE TURBIDITY:									
* Dredging continued between hrs. 02-06 however storm too strong for WOM.									
081108-00-1-2	3 pilings from SW corner of Steamship Pier (GPS not connecting)	1715	20'	2'	7.3	081108	Ebb	150'	08
081108-00-1-1		1716	20'	9'	0.6				
081108-00-1-		1717	20'	18'	1.2				
AVERAGE TURBIDITY:									
AVERAGE TURBIDITY:									
AVERAGE TURBIDITY:									
AVERAGE TURBIDITY:									

DOWN-CURRENT

Monitoring ID #	NORTHING/ EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	DISTANCE FROM DREDGE/SILT CURTAIN	NUMBER OF HOURS DREDGING
081108-00-9-2	2691579	0835	9'	2'	0.3	081108	Ebb	200'	00
081108-00-9-5	010353	0837	9'	5'	0.1				
081108-00-9-7		0840	9'	7'	0.9				
TURBIDITY INCREASE:									
081108-00-9-2	Even w/ dock of Steamship (100' S)	1725	7'	2'	2.2	081108	Ebb	150'	08
081108-00-9-4		1727	7'	4'	17.2				
081108-00-9-5		1729	7'	5'	24.2				
TURBIDITY INCREASE:									
TURBIDITY INCREASE:									
TURBIDITY INCREASE:									
TURBIDITY INCREASE:									

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT: Steamship Authority
 JOB NUMBER: 6588.006
 DATE: 8/11/08
 MONITORS: JM + JB
 WEATHER CONDITIONS: Rainy + Stormy - Second half of day was sunny with clouds -
 WIND: S-10 mph
 PRIOR STORM EVENTS: Rain / Thunder + Lightening
 DREDGE UPDATE: Disposal of scow SEI-2000
 TYPE OF WATER QUALITY MONITORING: DREDGE / DISPOSAL



UP-CURRENT								
Monitoring ID #	NORTHING/ EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	TYPE OF WOM & DISTANCE FROM LOCATION
081108-d1-00-1-2	S of scow	1630	34'	2'	4.3	081108	Flood	75' South of scow
081108-d1-00-1-16	SEI-2000	1632	34'	16'	1.7			
081108-d1-00-1-22		1633	34'	30'	1.1			
AVERAGE TURBIDITY:								

AVERAGE TURBIDITY:								
AVERAGE TURBIDITY:								
AVERAGE TURBIDITY:								

DOWN-CURRENT								
Monitoring ID #	NORTHING/ EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	DISTANCE FROM DREDGE/SILT CURTAIN
081108-d1-00-9-2		1650	24'	2'	1.3	081108	Flood	100' N of scow
081108-d1-00-9-18		1651	24'	12'	0.6			toward
081108-d1-00-9-22		1653	24'	22'	5.3			175 highway
TURBIDITY INCREASE:								

TURBIDITY INCREASE:								
TURBIDITY INCREASE:								
TURBIDITY INCREASE:								

* Turbidity Increase = Down Current Average Turbidity - Up-Current Average Turbidity

PROJECT: Steamship Authority
 JOB NUMBER: 6588.006
 DATE: 8/12/08
 MONITORS: JEZ, MB
 WEATHER CONDITIONS: Mid 50's in AM light rain, High 60's PM cleared up
 WIND: 5-15 mph
 PRIOR STORM EVENTS: 3/11/08 2-6.6 inches of rain, rain all night
 DREDGE UPDATE:
 TYPE OF WATER QUALITY MONITORING: DREDGE / DISPOSAL

Dredge Water Quality Monitoring Form



UP-CURRENT

Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	TYPE OF WQM & DISTANCE FROM LOCATION	NUMBER OF HOURS DREDGING
	2691661	11:20	5	2	-0.8				
	818403	11:22	5	3	-0.6				
		11:24	5	4	-0.6	N/A	Flood	200ft	02
AVERAGE TURBIDITY:									
	2691661	13:45	6	2	-0.6				
	818403	13:45	6	3	-0.2				
		13:48	6	4	-0.5	N/A	Flood	200ft	04
AVERAGE TURBIDITY:									
	2691661	15:30	7	2	-0.7				
	818403	15:31	7	4	-0.5				
		15:33	7	5	-0.7	N/A	Flood	200ft	06
AVERAGE TURBIDITY:									
AVERAGE TURBIDITY:									
AVERAGE TURBIDITY:									

DOWN-CURRENT

Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	DISTANCE FROM DREDGE/SILT CURTAIN	NUMBER OF HOURS DREDGING
	2691933	11:30	18	2	0.2				
	818091	11:32	18	9	2.8				
		11:34	18	16	1.2	N/A	Flood	200ft	02
TURBIDITY INCREASE:									
	2691938	13:30	20	2	0.7				
	818094	13:31	20	10	2.2				
		13:35	20	18	4.9	N/A	Flood	200ft	04
TURBIDITY INCREASE:									
	2691938	15:40	20	2	3.0				
	818094	15:41	20	9	4.6				
		15:44	20	18	0.2	N/A	Flood	200ft	06
TURBIDITY INCREASE:									
TURBIDITY INCREASE:									
TURBIDITY INCREASE:									

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT: Steamship Authority
 JOB NUMBER: 6588.006
 DATE: 081808
 MONITORS: RB, SM
 WEATHER CONDITIONS: Sunny, 75°
 WIND: 5 mph
 PRIOR STORM EVENTS: NA
 DREDGE UPDATE: Morning (D) side of dock / Afternoon (B) side of dock.
 TYPE OF WATER QUALITY MONITORING: DREDGE / DISPOSAL

Dredge Water Quality Monitoring Form



UP-CURRENT									
Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTU)	GPS FILE NAME	TIDAL STAGE	TYPE OF WQM & DISTANCE FROM LOCATION	NUMBER OF HOURS DREDGING
081808-00-1-12	2691639	0840	20	2	1.0	081808	Flood	100'	00
081808-00-1-9	818432	0842	↓	9	-1.3				
081808-00-1-19		0844	↓	19	-1.2				
AVERAGE TURBIDITY:									
081808-02-1-10	2692192.89	1050	22	2	-1.6	081808	ebb	150'	02
081808-02-1-10	817720.89	1052	↓	10	23.6				
081808-02-1-20		1054	↓	20	3.6				
AVERAGE TURBIDITY:									
081808-04-1-2	2692143	1235	20'	2'	6.5.1	081808	ebb	200'	04
081808-04-1-10	817801	1237	↓	10'	7.5				
081808-04-1-10		1238	↓	10'	7.2				
AVERAGE TURBIDITY:									
081808-07-1-2	2691690	1528	8'	2'	4.2	081808	Flood	150'	07
081808-07-1-4	818406	1529	↓	4'	5.0				
081808-07-1-6		1530	↓	6'	8.5				
AVERAGE TURBIDITY:									
081808-09-1-2	2691690	1734	6'	2'	0.8	081808	Flood	150'	09
081808-09-1-3	818410	1736	↓	3.8'	1.0				
081808-09-1-4		1737	↓	4.5'	0.7				
AVERAGE TURBIDITY:									

* Dredging halted - changed side of dock + moved cor.

DOWN-CURRENT									
Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	DISTANCE FROM DREDGE/SILT CURTAIN	NUMBER OF HOURS DREDGING
081808-00-9-2	269	0820	21	2	-1.4	081808	Flood	200'	00
081808-00-9-9	810	0825	↓	9	-1.1				
081808-00-9-19		0830	↓	19	5.4				
TURBIDITY INCREASE:									
081808-02-9-2	269	1044	22	2	-1.6	081808	ebb	100'	02
081808-02-9-10		1046	↓	10	-1.5				
081808-02-9-20		1048	↓	20	0.3				
TURBIDITY INCREASE:									
081808-04-9-2	269	1240	19'	2'	0.3	081808	ebb	150'	04
081808-04-9-10		1242	↓	10'	6.7				
081808-04-9-14		1244	↓	16'	1.9				
TURBIDITY INCREASE:									
081808-07-9-2	2691945	1532	15'	2'	1.4	081808	Flood	200'	07
081808-07-9-4	818152	1534	↓	7'	1.7				
081808-07-9-10		1536	↓	13	5.5				
TURBIDITY INCREASE:									
081808-09-9-2	2691950	1740	14'	2'	3.4	081808	Flood	200'	09
081808-09-9-10	818153	1742	↓	6'	4.5				
081808-09-9-12		1743	↓	10'	1.3				
TURBIDITY INCREASE:									

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

Turb. for 081808-02-1-10 = 23.6 NTU

PROJECT: Stearnship Authority
 JOB NUMBER: 6588.006
 DATE: 08/21/08
 MONITORS: RB and JER
 WEATHER CONDITIONS: Sunny, calm, no precip.
 WIND: calm
 PRIOR STORM EVENTS:
 DREDGE UPDATE:
 TYPE OF WATER QUALITY MONITORING: DREDGE / DISPOSAL

Dredge Water Quality Monitoring Form



UP-CURRENT									
Monitoring ID #	NORTHING/ EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	TYPE OF WOM & DISTANCE FROM LOCATION	NUMBER OF HOURS DREDGING
082108-00-	2691654	0950	7	2	1.3	NA	Flood	150	0
082108-00-		0952	↓	4	0.9				
082108-00-	818408	0955	↓	6	0.9				
			AVERAGE TURBIDITY:						
	2691938	12:45	22	2	2.9	NA	Ebb	175ft	3
		12:45	22	10	5.0				
	817915	12:49	22	20	3.8				
			AVERAGE TURBIDITY:						
	2691892	14:59	18	2	1.6	N/A	Ebb	175ft	5
		15:00	18	8	2.5				
	808221	15:01	18	16	11.5				
			AVERAGE TURBIDITY:						
	2691711	17:23	21	2	9.4	N/A	Ebb	175'	67
		17:23	↓	10	0.8				
	818023	17:23	↓	19	6.6				
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						

*
Dredging stops
for GPS problem

DOWN-CURRENT									
Monitoring ID #	NORTHING/ EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	DISTANCE FROM DREDGE/SILT CURTAIN	NUMBER OF HOURS DREDGING
	2691940	1015	16	2	0.1	N/A	Flood	175 ft	0
	818101	17	16	8	0.1				
		20	16	14	0.2				
			TURBIDITY INCREASE:						
	2691735	1250	7	2	0.0	N/A	Ebb	100ft	3
	818353	52	7	4	0.0				
		53	7	6	1.1				
			TURBIDITY INCREASE:						
	2691765	14:50	5 10	2 2	0.3	N/A	Ebb	75ft	5
	818543	14:52	8 10	4 5	1.4				
		14:56	8 10	4 8	6.2				
			TURBIDITY INCREASE:						
	2691701	1720	7	2	0.7	N/A	Ebb	75'	2 7
	818215	1720	7	4	0.8				
		1727	7	6	1.0				
			TURBIDITY INCREASE:						
			TURBIDITY INCREASE:						

*
Dredging stops
for GPS problem

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity



UP-CURRENT									
Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	TYPE OF WOM & DISTANCE FROM LOCATION	NUMBER OF HOURS DREDGING
	2696390	16:18	23	3	1.8	NA	ebb	200'	6
	814622	16:19	↓	10	2.3				
			AVERAGE TURBIDITY:		3.8				
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						

DOWN-CURRENT									
Monitoring ID #	NORTHING/ EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUa)	GPS FILE NAME	TIDAL STAGE	DISTANCE FROM DREDGE/SILT CURTAIN	NUMBER OF HOURS DREDGING
	2015-7-22	1704	33	2	2.2	NA	ebb	150'	6
	814 552		↓	16	1.9				
				31	4.5				
			TURBIDITY INCREASE:						
			TURBIDITY INCREASE:						
			TURBIDITY INCREASE:						
			TURBIDITY INCREASE:						

^a Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

DATE: 8/26 6588.006

MONITORS:

WEATHER CONDITIONS:

WIND:

PRIOR STORM EVENTS:

DREDGE UPDATE:

TYPE OF WATER QUALITY MONITORING: DREDGE / DISPOSAL

Dredge Water Quality Monitoring Form



Tides: Low @ 09:44, 23:47
High @ 04:13, 16:51

UP-CURRENT

Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	TYPE OF WOM & DISTANCE FROM LOCATION	NUMBER OF HOURS DREDGING
	2691931	0700	18	2	0.6	N/A	Ebb	180ft	00
	818054	0702	15	9	0.5				
		0704	18	16	11.2				
			AVERAGE TURBIDITY:						
	2691947	0902	17	2	16.6	N/A	Ebb	180ft	02
	818157	0902	17	8	19.3				
		0904	17	13	19.3				
			AVERAGE TURBIDITY:						
	2691654	11:05	5	2	5.6	N/A	Flood	150ft	04
	818416	11:08	5	3	5.8				
		11:10	5	4	3.5				
			AVERAGE TURBIDITY:						
	* GPS down	13:00	6	2	2.2	N/A	flood	180ft	06
		13:02	↓	3	2.9				
		13:04	↓	4	2.3				
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						

DOWN-CURRENT

Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	DISTANCE FROM DREDGE/SILT CURTAIN	NUMBER OF HOURS DREDGING
	2691654	0710	6	2	0.4	N/A	ebb	150ft	00
	818413	0711	6	3	0.5				
		0713	6	4	0.6				
			TURBIDITY INCREASE:						
	2691667	0855	5	2	0.3	N/A	Fbb	175ft	02
	818672	0858	5	3	0.3				
		0900	5	4	0.3				
			TURBIDITY INCREASE:						
	2691950	11:15	18	2	5.3	N/A	Flood	175ft	04
	818021	11:16	18	9	4.2				
		11:19	18	16	6.8				
			TURBIDITY INCREASE:						
*	GPS down	13:12	17	2	12.5	N/A	Flood	100	06
		13:14	↓	8	10.7				
		13:16	↓	15	6.0				
			TURBIDITY INCREASE:						
			TURBIDITY INCREASE:						

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

* 13:00 sample (up-current) taken at blue and white mooring ball on S. side of pier. GPS battery dead

* 13:20 sample (down-current) taken at South corner of S. side of pier

PROJECT: SS Authority
 JOB NUMBER: 6588.006.03
 DATE: 8/28/08
 MONITORS: JM + RB
 WEATHER CONDITIONS: Sunny, trace clouds, clear
 WIND: Clear, calm ~ 5 mph
 PRIOR STORM EVENTS: N/A
 DREDGE UPDATE: (A) side of pier in morning and (S) side of pier in afternoon
 TYPE OF WATER QUALITY MONITORING: DREDGE / DISPOSAL

Dredge Water Quality Monitoring Form



re-dredge
WQM
→

edge

UP-CURRENT									
Monitoring ID #	NORTHING/ EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	TYPE OF WQM & DISTANCE FROM LOCATION	NUMBER OF HOURS DREDGING
082808-00-1-2	2692056	0730	18'	2'	3.4	N/A	Ebb	200'	00hrs
" - 00-1-8		0731	↓	8'	2.6				
" - 00-1-16	817602	0732	↓	16'	5.1				
AVERAGE TURBIDITY:									
082808-02-1-2	2692034	0930	19'	2'	5.0	N/A	Ebb	200'	02 hrs
" - 02-1-8	817757	0931	↓	8'	5.6				
" - 02-1-17		0932	↓	17'	4.7				
AVERAGE TURBIDITY:									
082808-04-1-2	2692088	11:40	20'	2'	4.2	N/A	Ebb	200'	04 hrs
" - 04-1-8		11:41	↓	8'	2.6				
" - 04-1-15	817849	11:42	↓	15'	3.2				
AVERAGE TURBIDITY:									
082808-08-1-2	2691717	1535	20'	2'	8.3	N/A	Flood	200'	08 hrs
" - 08-1-10	817941	1536	↓	10'	10.5				
" - 08-1-18		1537	↓	18'	11.5				
AVERAGE TURBIDITY:									
AVERAGE TURBIDITY:									

re-dredge
WQM
→

DOWN-CURRENT									
Monitoring ID #	NORTHING/ EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	DISTANCE FROM DREDGE/SILT CURTAIN	NUMBER OF HOURS DREDGING
082808-00-9-2	2691882	0740	17'	2'	4.2	N/A	Ebb	200'	00 hrs
" - 00-9-8		0741	↓	8'	3.1				
" - 00-9-15	818010	0742	↓	15'	2.8				
TURBIDITY INCREASE:									
082808-02-9-2	2691830	0935	21'	2'	5.6	N/A	Ebb	200'	02 hrs
" - 02-9-10		0936	↓	10'	6.3				
" - 02-9-19	817921	0937	↓	19'	7.0				
TURBIDITY INCREASE:									
082808-04-9-2	2691947	11:35	18'	2'	4.9	N/A	Ebb	100'	04 hrs
" - 04-9-8		11:36	↓	8'	5.7				
" - 04-9-16	818022	11:37	↓	16'	8.2				
TURBIDITY INCREASE:									
082808-08-9-2	2691985	15:28	19'	2'	4.3	N/A	Flood	200'	08 hrs
" - 08-9-8		15:29	↓	8'	7.3				
" - 08-9-17	818016	15:30	↓	17'	7.9				
TURBIDITY INCREASE:									
TURBIDITY INCREASE:									

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT: New Bedford Harbor Bottom of Old Jet Steamship Authority
 JOB NUMBER: 0016-006-01 6588-006-03
 DATE: 8/28/08
 MONITORS: JA + RB
 WEATHER CONDITIONS: Sunny trace white clouds, calm, clear
 WIND: Calm - 5 mph
 PRIOR STORM EVENTS: N/A
 DREDGE UPDATE: Disposal of Eddie Canal
 TYPE OF WATER QUALITY MONITORING: DREDGE / DISPOSAL

Dredge Water Quality Monitoring Form



UP-CURRENT									
Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	TYPE OF WQM & DISTANCE FROM LOCATION	NUMBER OF HOURS DREDGING
081808-D1-00-1-2	2696054	0850	30'	2'	1.5	N/A	Ebb	200'	00 hrs
" - 14	015005	0851	↓	14'	9.1				
" - 28		0852	↓	28'	61.1				
AVERAGE TURBIDITY:									
AVERAGE TURBIDITY:									
AVERAGE TURBIDITY:									
AVERAGE TURBIDITY:									
AVERAGE TURBIDITY:									

DOWN-CURRENT									
Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	DISTANCE FROM DREDGE/SILT CURTAIN	NUMBER OF HOURS DREDGING
081808-D1-00-9-2	2695704	0857	32'	2'	2.4	N/A	Ebb	200'	00hrs
" - 13	814961	0858	↓	15'	2.6				
" - 28		0859	↓	30'	23.4				
TURBIDITY INCREASE:									
TURBIDITY INCREASE:									
TURBIDITY INCREASE:									
TURBIDITY INCREASE:									
TURBIDITY INCREASE:									

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT: Steamship Authority
 JOB NUMBER: 6588.006
 DATE: 9/3/08
 MONITORS: JM + MB
 WEATHER CONDITIONS: Sunny, cool, clear skies ~ 70°F
 WIND: ~ 5 mph cool breeze
 PRIOR STORM EVENTS: N/A - dew in morning
 DREDGE UPDATE:
 TYPE OF WATER QUALITY MONITORING: DREDGE / DISPOSAL



TIDES: Hi: 1130,
 Lo:

re-dredge
 WQM
 (S)
 of pier/
 dredge

UP-CURRENT

Monitoring ID #	NORTHING/ EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	TYPE OF WQM & DISTANCE FROM LOCATION	NUMBER OF HOURS DREDGING
090308-00-1-2	2691648	0900	7'	2'	0.9	090308	Flood	200'	00 hrs
090308-00-1-4	818412	0901	↓	4'	1.0				
090308-00-1-6		0902	↓	6'	1.2				
AVERAGE TURBIDITY:									
090308-02-1-2	2691608	1125	9'	2'	0.8	090308	Flood	200'	02 hrs
090308-02-1-4	818439	1126	↓	4'	0.9				
090308-02-1-7		1127	↓	7'	1.3				
AVERAGE TURBIDITY:									
090308-04-1-2	2691955	1352	18'	2'	1.9	N/A	Ebb	200'	04 hrs
090308-04-1-	818068	1353	↓	4'	1.7				
090308-04-1-		1354	↓	16'	0.9				
AVERAGE TURBIDITY:									
090308-07-1-2	269	17				N/A	Ebb	200'	07 hrs
090308-07-1-	818								
090308-07-1-									
AVERAGE TURBIDITY:									

re-dredge
 WQM
 of dredge

DOWN-CURRENT

Monitoring ID #	NORTHING/ EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	DISTANCE FROM DREDGE/SILT CURTAIN	NUMBER OF HOURS DREDGING
090308-00-9-2	2691933	0911	20'	2'	5.3	090308	Flood	200'	00 hrs
090308-00-9-10	818059	0912	↓	18'	6.9				
090308-00-9-18		0913	↓	18'	8.0				
TURBIDITY INCREASE:									
090308-02-9-2	2691932	1132	12'	2'	21.0	090308	Flood	200'	02 hrs
090308-02-9-	818044	1133	↓	5'	11.8				
090308-02-9-		1134	↓	16'	15.6				
TURBIDITY INCREASE:									
090308-04-9-2	2691644	1344	9'	2'	1.1	N/A	Ebb	200'	04 hrs
090308-04-9-4	818404	1345	↓	4'	1.2				
090308-04-9-6		1346	↓	6'	1.5				
TURBIDITY INCREASE:									
090308-07-9-2	269					N/A	Ebb	200'	07 hrs
090308-07-9-	818								
090308-07-9-									
TURBIDITY INCREASE:									

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT: Steamship Authority Bottom of CAD 2 - NBH

JOB NUMBER: 6615-006.01 6588-000

DATE: 8/27/08

MONITORS: JM+RB

WEATHER CONDITIONS: Sunny, Hot, 10mph winds

WIND: 10mph - cool/calm

PRIOR STORM EVENTS: None

DREDGE UPDATE: Disposal of Joe Verrochi

TYPE OF WATER QUALITY MONITORING: DISPOSAL

TIDES: High = 0521, 17:56
Low = 10:57



re-dump
WQM

st-dump
WQM

UP-CURRENT

Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	TYPE OF WQM & DISTANCE FROM LOCATION	NUMBER OF HOURS DREDGING
082708-D1-1-2	2695659	13:30	32'	2'	2.3				
082708-D1-1-15		13:31		15'	2.3				
082708-D1-1-30	814914.6	13:32	↓	30'	2.1	N/A	Flood	200'	00 hrs - D1 of J.V.
AVERAGE TURBIDITY:									
082708-D1-1-2	2695836	13:47	38'	2'	2.8				
082708-D1-1-19		13:48		19'	2.3				
082708-D1-1-36	814918	13:50	↓	36'	3.4	N/A	Flood	150'	Post dump WQM-J.V.
AVERAGE TURBIDITY:									

AVERAGE TURBIDITY:

AVERAGE TURBIDITY:

AVERAGE TURBIDITY:

AVERAGE TURBIDITY:

DOWN-CURRENT

re-dump
WQM

st-dump
WQM

Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	DISTANCE FROM DREDGE/SILT CURTAIN	NUMBER OF HOURS DREDGING
082708-D1-9-2	2696320	13:33	12'	2'	3.2				
082708-D1-9-5		13:35		5'	4.0				
082708-D1-9-10	814870	13:37	↓	10'	4.8	N/A	Flood	200'	D1 - Post dump of J.V.
TURBIDITY INCREASE:									
082708-D1-9-2	2696194	13:40	19'	2'	7.8				
082708-D1-9-9		13:42		9'	7.8				
082708-D1-9-17	814934	13:45	↓	17'	8.1	N/A	Flood	100'	Post dump of JV
TURBIDITY INCREASE:									

TURBIDITY INCREASE:

TURBIDITY INCREASE:

TURBIDITY INCREASE:

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT: Steamship Point 019 Bottom of CADZ - NBH

JOB NUMBER: 6615.006 6600-000

DATE: 0127100

MONITORS: JM+RA

WEATHER CONDITIONS: Sunny Warm, 80°F

WIND: 6-10 mph

PRIOR STORM EVENTS: N/A

DREDGE UPDATE: Afternoon

TYPE OF WATER QUALITY MONITORING: DREDGE / DISPOSAL

Dredge Water Quality Monitoring Form



tides - high: 0521, 1756
low: 1057

UP-CURRENT

Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTU)	GPS FILE NAME	TIDAL STAGE	TYPE OF WQM & DISTANCE FROM LOCATION	NUMBER OF HOURS DREDGING
082708-02-1-2	2695800	1542	36'	2'	2.4				
" - " - 1-17		1543		17'	1.9				
" - " - 1-34	015170	1545	↓	34'	2.0	N/A	Flood	150'	02 hrs after 1st WQM
			AVERAGE TURBIDITY:						
082708-04-1-2	2695841	1730	39'	2'	1.4				
082708-04-1-18		1733		18'	2.3				
082708-04-1-57	015089	1735	↓	37'	3.0	N/A	Flood	200'	04 hrs after 1st WQM
			AVERAGE TURBIDITY:						

AVERAGE TURBIDITY:

AVERAGE TURBIDITY:

AVERAGE TURBIDITY:

DOWN-CURRENT

Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTU)	GPS FILE NAME	TIDAL STAGE	DISTANCE FROM DREDGE/SILT CURTAIN	NUMBER OF HOURS DREDGING
082708-04-9-2	2696257	1535	11'	2'	4.3				
082708-04-9-5		1537		5'	3.4				
082708-04-9-9	815277	1540	↓	9'	5.0	N/A	Flood	150'	02 after 1st WQM
			TURBIDITY INCREASE:						
082708-04-9-2	2696287	1742	13'	2'	1.5				
082708-04-9-6		1744		6'	1.4				
082708-04-9-11	815429	1747	↓	11'	4.5	N/A	Flood	200'	04 after 1st WQM
			TURBIDITY INCREASE:						

TURBIDITY INCREASE:

TURBIDITY INCREASE:

TURBIDITY INCREASE:

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT: New Bedford Harbor: Bottom of CAD #2

Dredge Water Quality Monitoring Form

JOB NUMBER: 6615.006.01

DATE: 8/28/08

MONITORS: JM + RB

WEATHER CONDITIONS: Sunny, trace clouds; some wind

WIND: Calm ~ 5 mph

PRIOR STORM EVENTS: N/A

DREDGE UPDATE: Dredge on pause throughout morning - started up @ 1:00pm

TYPE OF WATER QUALITY MONITORING: DREDGE / DISPOSAL



TIDE: High = 0620; 1052
Low = 1159

* Dredge paused in morning for survey + mechanical issues aboard A.S.

re-edge @ M

UP-CURRENT									
Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	TYPE OF WQM & DISTANCE FROM LOCATION	NUMBER OF HOURS DREDGING
082808-00-1-2	2695026	0800	34'	2'	1.6	082808	Ebb	200'	00hrs 1st WQM of the day
082808-00-1-18	815241.4	0803		15'	3.2				
082808-00-1-37			27'	1.9					
AVERAGE TURBIDITY:									
082808-02-1-2	2696048	1030	31'	2'	2.4	082808	Ebb	200'	02 hrs
082808-02-1-15	815116.8	1031		15'	3.2				
082808-02-1-29		1032		29'	7.1				
AVERAGE TURBIDITY:									
082808-04-1-2	2695766	1222	33'	2'	1.6	082808	Flood	100'	04 hrs
082808-04-1-15		1223		15'	3.8				
082808-04-1-31	815122	1224		31'	5.8				
AVERAGE TURBIDITY:									
082808-06-1-2	2696418	1445	10'	2'	4.2	N/A	Flood	150'	06 hrs
082808-06-1-5		1447		5'	7.3				
082808-06-1-8	815459	1449		8'	15.5				
AVERAGE TURBIDITY:									
082808-08-1-2	2695910	1640	34'	2'	1.6	N/A	Flood	200'	08hrs
082808-08-1-16	815205	1641		16'	1.4				
082808-08-1-32		1642		32'	1.8				
AVERAGE TURBIDITY:									

Average in hold

own-current

e-edge @ M

DOWN-CURRENT									
Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTU)	GPS FILE NAME	TIDAL STAGE	DISTANCE FROM DREDGE/SILT CURTAIN	NUMBER OF HOURS DREDGING
082808-00-9-2	2695672	0810	40'	2'	2.1	N/A	Ebb	200'	00hrs
" - 00-9-20	815136	0811	↓	20'	1.3				
" - 00-9-38		0813	↓	38'	1.3				
TURBIDITY INCREASE:									
082808-02-9-2	2695593	1024	32'	2'	2.5	N/A	Ebb	200'	02 hrs
" - 02-9-15	814981	1025	↓	15'	2.6				
" - 02-9-30		1026	↓	30'	4.4				
TURBIDITY INCREASE:									
082808-04-9-2	2696055	1227	21'	2'	2.0	N/A	Flood	200'	04 hrs
" - 04-9-10		1228	↓	10'	2.5				
" - 04-9-19	815196	1229	↓	19'	2.2				
TURBIDITY INCREASE:									
082808-06-9-2	2695983	1450	11'	2'	1.8	N/A	Flood	200'	06 hrs
" - 06-9-5		1451	↓	5'	1.8				
" - 06-9-9	815301	1452	↓	9'	1.9				
TURBIDITY INCREASE:									
082808-08-9-2	2696339	1650	12'	2'	7.0	N/A	Flood	200'	08 hrs
" - 08-9-5		1651	↓	5'	3.0				
" - 08-9-10	815423	1652	↓	10'	2.4				
TURBIDITY INCREASE:									

current

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT: New Bedford Harbor: Bottom of CAD #2

Dredge Water Quality Monitoring Form

JOB NUMBER: 6615.006.01

DATE: 9/3/08

MONITORS: TM

WEATHER CONDITIONS: Sunny, clear skies, warm ~ 70°F - 75°F

WIND: cool breeze ~ 5 mph

PRIOR STORM EVENTS: N/A

DREDGE UPDATE: Dredging started @ 800 AM - disposal of material

TYPE OF WATER QUALITY MONITORING: DREDGE DISPOSALre-dredge
WQM
6

UP-CURRENT									
Monitoring ID #	NORTHING/ EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUe)	GPS FILE NAME	TIDAL STAGE	TYPE OF WQM & DISTANCE FROM LOCATION	NUMBER OF HOURS DREDGING
090308-00-1-2	2695930	0910	10'	2'	2.5	N/A	Flood	100'	00
090308-00-1-5	2695930	0912	↓	5'	3.2				
090308-00-1-8	2695930	0913	↓	8'	4.2				
AVERAGE TURBIDITY:									
090308-02-1-2	2695618	1054	15'	2'	4.1	N/A	Flood	200'	02
090308-02-1-6	2695618	1055	↓	6'	4.2				
090308-02-1-13	2695618	1056	↓	13'	4.0				
AVERAGE TURBIDITY:									
090308-04-1-2	2696258	1305	10'	2'	1.7	N/A	Ebb	200'	04
090308-04-1-4	2696258	1306	↓	4'	2.0				
090308-04-1-8	2696258	1307	↓	8'	1.2				
AVERAGE TURBIDITY:									
AVERAGE TURBIDITY:									
AVERAGE TURBIDITY:									

DOWN-CURRENT									
Monitoring ID #	NORTHING/ EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUe)	GPS FILE NAME	TIDAL STAGE	DISTANCE FROM DREDGE/SILT CURTAIN	NUMBER OF HOURS DREDGING
090308-00-9-2	2696257	0910	30'	2'	1.8	N/A	Flood	100'	00
090308-00-9-15	2696257	0916	↓	15'	7.8				
090308-00-9-28	2696257	0927	↓	28'	48.2				
TURBIDITY INCREASE:									
090308-02-9-2	2696430	1102	13'	2'	1.2	N/A	Flood	200'	02
090308-02-9-6	2696430	1103	↓	6'	1.8				
090308-02-9-11	2696430	1104	↓	11'	2.8				
TURBIDITY INCREASE:									
090308-04-9-2	2695797	1317	39'	2'	10.2	N/A	Ebb	200'	04
090308-04-9-18	2695797	1318	↓	18'	9.7				
090308-04-9-31	2695797	1319	↓	31'	7.5				
TURBIDITY INCREASE:									
TURBIDITY INCREASE:									
TURBIDITY INCREASE:									

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT: New Bedford Harbor: Bottom of CAD #2

JOB NUMBER: 6615.006.01

Dredge Water Quality Monitoring Form

DATE:

MONITORS: 3M & 6M FB

WEATHER CONDITIONS: Sunny, cool, trace clouds - 60°F / 70's in after-noon

WIND: cool, slight breeze

PRIOR STORM EVENTS: N/A

DREDGE UPDATE: Dredging

TYPE OF WATER QUALITY MONITORING: DREDGE / DISPOSAL



Tides - Hi: 0530; 1759
Lo: 11:12; N/A

UP-CURRENT									
Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	TYPE OF WQM & DISTANCE FROM LOCATION	NUMBER OF HOURS DREDGING
091106-00-1-2		0622	11'	2'	1.2	N/A	Ebb	150'	00
091106-00-1-3		0624	↓	5'	1.1				
091106-00-1-4		0625	↓	9'	2.6				
AVERAGE TURBIDITY:									
091106-02-1-3		1040	7'	2'	1.8	N/A	Ebb	200'	02
091106-02-1-4		1042	↓	4'	1.2				
091106-02-1-6		1043	↓	6'	2.0				
AVERAGE TURBIDITY:									
091106-04-1-2		1300	30'	2'	1.8	N/A	Flood	200'	04
091106-04-1-15		1301	↓	15'	1.2				
091106-04-1-20		1302	↓	28'	0.9				
AVERAGE TURBIDITY:									
091106-07-1-2		1642	32'	2'	1.7	N/A	Flood	200'	07
091106-07-1-15		1643	↓	15'	1.3				
091106-07-1-30		1644	↓	30'	4.0				
AVERAGE TURBIDITY:									
AVERAGE TURBIDITY:									

DOWN-CURRENT									
Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	DISTANCE FROM DREDGE/SILT CURTAIN	NUMBER OF HOURS DREDGING
091106-00-9-2		0849	35'	2'	8.2	N/A	Ebb	200'	00
091106-00-9-17		0851	↓	17'	3.4				
091106-00-9-33		0853	↓	33'	1.4				
TURBIDITY INCREASE:									
091106-02-9-2		1032	36'	2'	1.8	N/A	Ebb	200'	02
091106-02-9-10		1033	↓	10'	2.0				
091106-02-9-34		1034	↓	34'	1.1				
TURBIDITY INCREASE:									
091106-04-9-2		1305	7'	2'	2.3	N/A	Flood	200'	04
091106-04-9-8		1306	↓	4'	1.5				
091106-04-9-6		1307	↓	6'	1.4				
TURBIDITY INCREASE:									
091106-07-9-2		1650	10'	2'	1.2	N/A	Flood	200'	07
091106-07-9-4		1651	↓	4'	1.5				
091106-07-9-8		1652	↓	8'	0.7				
TURBIDITY INCREASE:									
TURBIDITY INCREASE:									

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT: New Bedford Harbor: Bottom of CAD #2

Dredge Water Quality Monitoring Form

JOB NUMBER: 0615.006.01

DATE: 9/16/08

MONITORS: JM + MB

WEATHER CONDITIONS: Cool, cloudy, 65°F

WIND: Light breeze

PRIOR STORM EVENTS: N/A

DREDGE UPDATE: Disposal into V. (2) 600 hrs

TYPE OF WATER QUALITY MONITORING: (DREDGE) / DISPOSAL



TIDES: Hi = 0901; 2125
Lo = 0224; 1454

UP-CURRENT									
Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTU)	GPS FILE NAME	TIDAL STAGE	TYPE OF WQM & DISTANCE FROM LOCATION	NUMBER OF HOURS DREDGING
091608-00-1-2	2695820	0950	35'	2'	1.8	N/A	Ebb	200'	00
091608-00-1-17		0951	↓	17'	1.5				
091608-00-1-33	815384	0952	↓	33'	1.8				
AVERAGE TURBIDITY:					1.5 NTU				
091608-02-1-2	2695930	1150	23'	2'	2.1	N/A	Ebb	200'	02
091608-02-1-11		1151	↓	11'	4.2				
091608-02-1-21	815365	1152	↓	21'	4.1				
AVERAGE TURBIDITY:					3.5 NTU				
091608-04-1-2	2695873	1441	6'	2'	10.9	N/A	Ebb	200'	04
091608-04-1-4		1442	↓	4'	10.3				
091608-04-1-5	815402	1443	↓	5'	9.4				
AVERAGE TURBIDITY:									
091608-06-1-2	2696074	1610	10'	2'	3.0	N/A	Flood	200'	06
091608-06-1-		1611	10'	5'	6.3				
091608-06-1-	815433	1612	10'	8'	6.7				
AVERAGE TURBIDITY:									
AVERAGE TURBIDITY:									

DOWN-CURRENT									
Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTU)	GPS FILE NAME	TIDAL STAGE	DISTANCE FROM DREDGE/SILT CURTAIN	NUMBER OF HOURS DREDGING
091608-00-9-2	269556	1000	9'	2'	2.4	N/A	Ebb	200'	00
091608-00-9-4		1000		4'	2.8				
091608-00-9-6	815253	1003	↓	6'	2.3				
TURBIDITY INCREASE:					2.3 NTU				
091608-02-9-2	2696552	1156	10'	2'	1.5	N/A	Ebb	200'	02
091608-02-9-4		1157		4'	1.7				
091608-02-9-8	815366	1158	↓	8'	1.8				
TURBIDITY INCREASE:					1.7 NTU				
091608-04-9-2	2696548	1430	9'	2'	2.3	N/A	Ebb	200'	04
091608-04-9-4		1431		4'	4.4				
091608-04-9-7	815311	1432	↓	7'	4.1				
TURBIDITY INCREASE:									
091608-06-9-2	2696485	1616	8'	2'	3.3	N/A	Flood	200'	06
091608-06-9-		1618		4'	5.4				
091608-06-9-	815432	1619	↓	6'	6.5				
TURBIDITY INCREASE:									
TURBIDITY INCREASE:									

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT: New Bedford Harbor: Bottom of CAD #2

Dredge Water Quality Monitoring Form

JOB NUMBER: 6615.006.01

DATE: 9/18/08

MONITORS: JM + MB

WEATHER CONDITIONS: Windy, cloudy ~ 60°F

WIND: Windy - 10 mph

PRIOR STORM EVENTS: N/A

DREDGE UPDATE:

TYPE OF WATER QUALITY MONITORING: DREDGE / DISPOSAL

DOWN-CURRENT

~~UP-CURRENT~~

Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTU*)	GPS FILE NAME	TIDAL STAGE	TYPE OF WQM & DISTANCE FROM LOCATION	NUMBER OF HOURS DREDGING
091808-00-1-2	2695789	1140	38'	2'	1.3	N/A	Ebb	200'	00
091808-00-1-16	815295	1141		16'	0.9				
091808-00-1-36		1142	↓	26'	1.2				
AVERAGE TURBIDITY:									
091808-04-1-2	2695792	1536	32'	2'	4.3	N/A	Ebb	200'	04
091808-04-1-16	815361	1537		16'	3.1				
091808-04-1-36		1538	↓	30'	2.2				
AVERAGE TURBIDITY:									
AVERAGE TURBIDITY:									
AVERAGE TURBIDITY:									
AVERAGE TURBIDITY:									

UP-CURRENT

~~DOWN-CURRENT~~

DOWN CURRENT

Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	DISTANCE FROM DREDGE/SILT CURTAIN	NUMBER OF HOURS DREDGING
091808-00-9-8	2695342	1150	10'	2'	2.2	N/A	Ebb	200'	00
091808-00-9-4	815058	1152	↓	4'	1.8				
091808-00-9-2		1153	↓	8'	2.3				
TURBIDITY INCREASE:									
091808-04-9-2	8696291	1545	30'	2'	2.7	N/A	Ebb	200'	04
091808-04-9-16	815359	1546	↓	15'	4.1				
091808-04-9-36		1547	↓	26'	3.9				
TURBIDITY INCREASE:									
TURBIDITY INCREASE:									
TURBIDITY INCREASE:									
TURBIDITY INCREASE:									

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT: New Bedford Harbor - Navigational Dredging @ Upper harbor cc boat house
 JOB NUMBER: 6615.007.01
 DATE: 4/5/09
 MONITORS: JM/JR
 WEATHER CONDITIONS: Sunny, windy trace clouds ~ 40°F
 WIND: 10-15 mph east
 PRIOR STORM EVENTS: N/A
 DREDGE UPDATE: No dredging today (dump sat for a week)
 TYPE OF WATER QUALITY MONITORING: DREDGE (DISPOSAL)
 TIDE (Slack) High: 5:02; 17:32 Low: 11:56; 23:41
 (Flood)

Dredge Water Quality Monitoring Form



UP-CURRENT (Pre-disposal)

Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTU)	GPS FILE NAME	TIDAL STAGE	TYPE OF WQM & DISTANCE FROM LOCATION	NUMBER OF HOURS DREDGING
040509-D1-1-2	2695847	11:40	10'	2	1.59	N/A	Slack/Flood	15' from silt curtain	No dredge today
040509-D1-1-4	815652	11:47		4	1.71				
040509-D1-1-8		11:52		8	1.35				
AVERAGE TURBIDITY:					1.55 NTU				

040509-D1-1-2	2695847	11:42	10'	2	0.2	N/A	Slack/Flood	15'	N/A
040509-D1-1-4	815652	11:43		4	0.5				
040509-D1-1-8		11:44		8	0.6				
AVERAGE TURBIDITY:									

Disposal @ 11:55 AM into CAD 2

DOWN-CURRENT (post-disposal)

Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTU)	GPS FILE NAME	TIDAL STAGE	DISTANCE FROM DREDGE/SILT CURTAIN	NUMBER OF HOURS DREDGING
040509-D1-9-2	2696576	13:00	11'	2	1.32	N/A	Flood	15' from silt curtain	No dredge today
040509-D1-9-5	815416	13:10		5	2.82				
040509-D1-9-9		13:20		9	1.06				
TURBIDITY INCREASE:					1.93 NTU (Avg)				

(Turbidity increase = $1.93 - 1.55 = 0.38$ NTU increase)

040509-D1-9-2	2696576	13:02	11'	2	0.2	N/A	Flood	15'	N/A
040509-D1-9-5	815416	13:11		5	2.3				
040509-D1-9-9		13:21		9	3.8				
TURBIDITY INCREASE:									

PROJECT: New Bedford Harbor - Navigational Dredging @

Dredge Water Quality Monitoring Form

JOB NUMBER: 8615.007.01

DATE: 4/8/09

MONITORS: JER LM CM

WEATHER CONDITIONS: 40 F

WIND: 20-25 from the SW

PRIOR STORM EVENTS: RAIN previous 2 days

DREDGE UPDATE: No dredging 4/9/09, resume 4/10/09

TYPE OF WATER QUALITY MONITORING: DREDGE DISPOSAL

TIDE High: Low:



Monitoring ID #
NORTHING/EASTING
TIME
TOTAL WATER DEPTH (ft)
SAMPLE DEPTH (ft)
TURBIDITY (NTUs)
GPS FILE NAME
TIDAL STAGE
TYPE OF WQM & DISTANCE FROM LOCATION
NUMBER OF HOURS DREDGING

4138, 46.1	13:20	9ft	2 ft	3.42	N/A	Slack	Disposal	0
070 55 02.9	13:20		5 ft	3.01		Flood	15 ft	
	13:20		7 ft	2.39				
AVERAGE TURBIDITY:								

AVERAGE TURBIDITY:								

AVERAGE TURBIDITY:								

AVERAGE TURBIDITY:								

AVERAGE TURBIDITY:								

downstream turned direction

LAT LONG

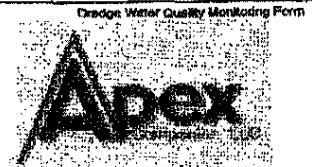
DOWN-CURRENT

Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	DISTANCE FROM DREDGE/SILT CURTAIN	NUMBER OF HOURS DREDGING
4138 45.3	13:35	10ft	2 ft	2.05	N/A	Slack	At silt curtain	0	
070 55 0.4	13:35	5 ft	2.38			Flood			
	13:35	8 ft	2.88						
TURBIDITY INCREASE:									

4138 40	13:58	10 ft	2 ft	1.54	N/A	Slack	At silt curtain	0	
070 54 60	13:58	5 ft	1.71			Flood			
	13:58	8 ft	2.69						
TURBIDITY INCREASE:									

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity
NBH Navigational Dredging WQM Spreadsheet

PROJECT: New Bedford Harbor - Navigational Dredging @ 248 Gifford St.
 JOB NUMBER: 6615.007.01
 DATE: 4/21/09
 MONITORS: 2-12
 WEATHER CONDITIONS:
 WIND:
 PRIOR STORM EVENTS:
 DREDGE UPDATE:
 TYPE OF WATER QUALITY MONITORING: DREDGE / DISPOSAL
 TIDE High Low:



Dump Time 10:50 AM

UP-CURRENT									
Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	TYPE OF WQM & DISTANCE FROM LOCATION	NUMBER OF HOURS DREDGING
	2696496,	10:14	11ft	2ft	2.38	N/A	Ebb	15ft	0
	815561	10:14		6ft	2.93				
		10:14		9ft	1.93				
AVERAGE TURBIDITY:					2.21				
AVERAGE TURBIDITY:									
AVERAGE TURBIDITY:									
AVERAGE TURBIDITY:									
AVERAGE TURBIDITY:									

DOWN-CURRENT									
Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	DISTANCE FROM DREDGE/SILT CURTAIN	NUMBER OF HOURS DREDGING
	2695981,	11:00	7ft	2 ft	6.51	N/A	Ebb	15ft	0
	815438	11:00		3.5 ft	3.07				
		11:00		5 ft	5.54				
TURBIDITY INCREASE:					5.05				
TURBIDITY INCREASE:									
TURBIDITY INCREASE:									
TURBIDITY INCREASE:									
TURBIDITY INCREASE:									

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity
 NBH Navigational Dredging WQM Spreadsheet

PROJECT: New Bedford Harbor - Navigational Dredging @ Gifford St
 JOB NUMBER: 8615.007.01
 DATE: 4/22/09
 MONITORS: JER
 WEATHER CONDITIONS:
 WIND:
 PRIOR STORM EVENTS:
 DREDGE UPDATE:
 TYPE OF WATER QUALITY MONITORING: DREDGE / DISPOSAL
 TIDE: High / Low



Dump Time @ 08:20

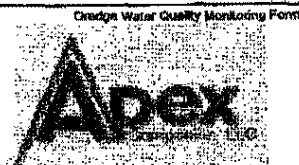
UP-CURRENT									
Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTU)	GPS FILE NAME	TIDAL STAGE	TYPE OF WQM & DISTANCE FROM LOCATION	NUMBER OF HOURS DREDGING
	2696539	08:15	12ft	2	1.7	N/A	Ebb	Disposal 15ft	0
	815509	08:15		6	2.0				
		08:15		10	1.4				
			AVERAGE TURBIDITY:		1.7				
	2688216,	13:35	8ft	2	2.2	N/A	Flood	Dredging 200ft	2
	816526	13:35		4	1.7				
		13:35		6	2.8				
			AVERAGE TURBIDITY:		2.23				
	2688264,	13:50	7ft	2	2.1	N/A	Flood	Dredging 200ft	2
	816760	13:50		4	1.3				
		13:50		5	1.4				
			AVERAGE TURBIDITY:		1.6				
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						

additional up-current location

DOWN-CURRENT									
Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTU)	GPS FILE NAME	TIDAL STAGE	DISTANCE FROM DREDGE/SILT CURTAIN	NUMBER OF HOURS DREDGING
	2695979,	08:28	12ft	2	4.3	N/A	Ebb	Disposal 15ft	0
	815541	08:28		6	4.5				
		08:28		10	2.7				
			TURBIDITY INCREASE:		4.07				
	2687447,	14:10	6ft	2	1.4	N/A	Flood	Dredging 200ft	2
	816561	14:10		3	2.0				
		14:10		4	3.1				
			TURBIDITY INCREASE:		2.17				
			TURBIDITY INCREASE:						
			TURBIDITY INCREASE:						
			TURBIDITY INCREASE:						

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT: New Bedford Harbor - Navigational Dredging @
 JOB NUMBER: 6616.007.01
 DATE: 5/4/09
 MONITORS: CHD
 WEATHER CONDITIONS:
 WIND:
 PRIOR STORM EVENTS:
 DREDGE UPDATE:
 TYPE OF WATER QUALITY MONITORING: DREDGE / DISPOSAL
 TIDE High: Low:



UP-CURRENT								
Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	TYPE OF WOM & DISTANCE FROM LOCATION
		1130	10ft	1.5	7.1	N/A		
		1130		4	0.77			
		1130		7	1.0			
					AVERAGE TURBIDITY:	5.02		
					AVERAGE TURBIDITY:			
					AVERAGE TURBIDITY:			
					AVERAGE TURBIDITY:			
					AVERAGE TURBIDITY:			

DOWN-CURRENT								
Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	DISTANCE FROM DREDGE/SILT CURTAIN
			11ft	2	2.7	N/A		
				6	0.1			
				9	0.87			
					TURBIDITY INCREASE:	1.22		
					TURBIDITY INCREASE:			
					TURBIDITY INCREASE:			
					TURBIDITY INCREASE:			
					TURBIDITY INCREASE:			

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT: New Bedford Harbor - Navigational Dredging @ Gifford St
 JOB NUMBER: 0616.007.01
 DATE: SEP
 MONITORS: SEP
 WEATHER CONDITIONS:
 WIND:
 PRIOR STORM EVENTS:
 DREDGE UPDATE:
 TYPE OF WATER QUALITY MONITORING: DREDGE DISPOSAL
 TIDE High: Low:



Dump Time 11:50

UP-CURRENT

Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTU)	GPS FILE NAME	TIDAL STAGE	TYPE OF WOM & DISTANCE FROM LOCATION	NUMBER OF HOURS DREDGING
	2696505, 815523	11:45 11:45 11:45	9ft	2 5 7	2.3 1.5 1.3	NA	Ebb	Disposed 75ft	N/A
			AVERAGE TURBIDITY:		1.7				
	2687140, 816400	16:45 16:45 16:45	5ft	2 3 4	2.5 2.7 2.3	N/A		Dredge 200ft	4
			AVERAGE TURBIDITY:		2.5				
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						

DOWN-CURRENT

Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTU)	GPS FILE NAME	TIDAL STAGE	DISTANCE FROM DREDGE/SILT CURTAIN	NUMBER OF HOURS DREDGING
	2696001, 815563	12:01 12:01 12:01	10ft	2 5 8	1.4 1.2 1.5	NA	Ebb	Disposed 75ft	N/A
			TURBIDITY INCREASE:		1.8				
	2686910, 816474	16:58 16:58 16:58	6ft	2 3 4	1.3 1.4 1.0	N/A		Dredge 200ft	4
			TURBIDITY INCREASE:		14.3				
			TURBIDITY INCREASE:						
			TURBIDITY INCREASE:						
			TURBIDITY INCREASE:						

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT: New Bedford Harbor - Navigational Dredging @ Trinasson Park

JOB NUMBER: 8615.007.01

DATE: 5/13/09

MONITORS: JER/GSD

WEATHER CONDITIONS:

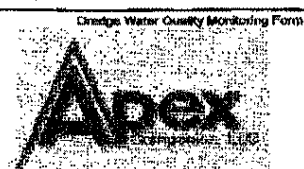
WIND:

PRIOR STORM EVENTS:

DREDGE UPDATE:

TYPE OF WATER QUALITY MONITORING: DREDGE / DISPOSAL

TIDE: High Low



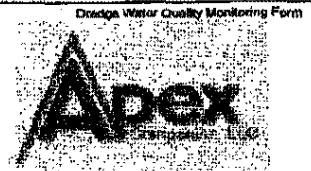
Up & Down Same Position (No other outlet) during dredging
 Dump Time @ 13:36

UP-CURRENT / Down-Current (SAME)							
Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTU)	GPS FILE NAME TIDAL STAGE	TYPE OF WQM & DISTANCE FROM LOCATION
2692827, 814866		1037 1037 1037	31'	2 16 29	1.1 1.2 1.1	N/A Flood	200ft
AVERAGE TURBIDITY:					1.33		
AVERAGE TURBIDITY:							
2696532, 815465		1330 1330 1330	10ft	2 5 8	1.8 1.3 1.0	N/A Ebb	15ft Disposal
AVERAGE TURBIDITY:					1.37		
AVERAGE TURBIDITY:							
AVERAGE TURBIDITY:							

DOWN-CURRENT							
Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTU)	GPS FILE NAME TIDAL STAGE	DISTANCE FROM DREDGE/SILT CURTAIN
TURBIDITY INCREASE:							
TURBIDITY INCREASE:							
2696040, 815593		1350 1350 1350	13ft	2 7 11	1.4 1.4 1.6	N/A Ebb	15ft Disposal
TURBIDITY INCREASE:					1.47		
TURBIDITY INCREASE:							
TURBIDITY INCREASE:							

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT: New Bedford Harbor - Navigational Dredging @ Gifford St. (61)
 JOB NUMBER: 0616.007.01
 DATE: 5/20/09
 MONITORS:
 WEATHER CONDITIONS:
 WIND:
 PRIOR STORM EVENTS:
 DREDGE UPDATE:
 TYPE OF WATER QUALITY MONITORING: DREDGE / DISPOSAL
 TIDE High: Low:



UP-CURRENT									
Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTU)	GPS FILE NAME	TIDAL STAGE	TYPE OF WQM & DISTANCE FROM LOCATION	NUMBER OF HOURS DREDGING
	2687551, 816571	1406 1400 1400	6ft	2 3 4	5.95 6.95 52.0	N/A	Flood	200ft	6
AVERAGE TURBIDITY:					21.6				
AVERAGE TURBIDITY:									
AVERAGE TURBIDITY:									
AVERAGE TURBIDITY:									
AVERAGE TURBIDITY:									
AVERAGE TURBIDITY:									

DOWN-CURRENT									
Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTU)	GPS FILE NAME	TIDAL STAGE	DISTANCE FROM DREDGE/SILT CURTAIN	NUMBER OF HOURS DREDGING
	2688188, 816578	1420 1420 1420	9ft	2 3 4	4.38 1.23 3.95	N/A	Flood	200ft	6
TURBIDITY INCREASE:					3.19				
TURBIDITY INCREASE:									
TURBIDITY INCREASE:									
TURBIDITY INCREASE:									
TURBIDITY INCREASE:									
TURBIDITY INCREASE:									

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity
 NBH Navigational Dredging WQM Spreadsheet

PROJECT: 6615 New Bedford Harbor - Navigational Dredging @ LINDBERG MARINE
 JOB NUMBER: 8516.007.01
 DATE: 5/28/09
 MONITORS: JK / MB
 WEATHER CONDITIONS:
 WIND:
 PRIOR STORM EVENTS:
 DREDGE UPDATE:
 TYPE OF WATER QUALITY MONITORING: DREDGE / DISPOSAL
 TIDE High: 11:55, Low: 05:50 + 44 (7:11)

Dredge Water Quality Monitoring Form



UP-CURRENT									
Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTU)	GPS FILE NAME	TIDAL STAGE	TYPE OF WORK & DISTANCE FROM LOCATION	NUMBER OF HOURS DREDGING
	818006	10:13	18ft	2 ft	0.50	N/A	Flood	< 200 ft from dredge	< 1
	2693407	10:13		5 ft	0.64				
		10:13		10 ft	1.00				
			AVERAGE TURBIDITY:						
	2696681	14:00	12ft	2 ft	0.00	N/A	Ebb	Tied to silt curtain	N/A Disposal
	815506	14:00		5 ft	1.55				
		14:00		10 ft	1.10				
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						
DOWN-CURRENT									
Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTU)	GPS FILE NAME	TIDAL STAGE	DISTANCE FROM DREDGE/SILT CURTAIN	NUMBER OF HOURS DREDGING
	2693690	10:25	16ft	2 ft	1.00	N/A	Flood	< 200 ft from dredge	< 1
	817638	10:25		5 ft	2.11				
		10:25		10 ft	1.55				
			TURBIDITY INCREASE:						
	2695989	14:45	10ft	2 ft	1.22	N/A	Ebb	Tied to silt curtain	N/A Disposal
	815575	14:45		5 ft	0.65				
		14:45		8 ft	2.27				
			TURBIDITY INCREASE:						
			TURBIDITY INCREASE:						
			TURBIDITY INCREASE:						
			TURBIDITY INCREASE:						

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT: 0615 New Bedford Harbor - Navigational Dredging @ Linkery Marine
 JOB NUMBER: 8616.007.01
 DATE: 6/14
 MONITORS: JEE
 WEATHER CONDITIONS:
 WIND:
 PRIOR STORM EVENTS:
 DREDGE UPDATE:
 TYPE OF WATER QUALITY MONITORING: DREDGE / DISPOSAL
 TIDE: High Low

Dredge Water Quality Monitoring Form



Atlantic dredging @ Linkery Marine

UP-CURRENT

Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTU)	GPS FILE NAME	TIDAL STAGE	TYPE OF WQM & DISTANCE FROM LOCATION	NUMBER OF HOURS DREDGING
	<u>269965</u>	<u>14:35</u>	<u>18ft</u>	<u>2</u>	<u>1.4</u>	<u>N/A</u>	<u>Flood</u>	<u><15 ft from pilt curtain</u>	<u>4</u>
	<u>817418</u>	<u>14:35</u>		<u>7</u>	<u>1.8</u>				
		<u>14:35</u>		<u>16</u>	<u>1.6</u>				
AVERAGE TURBIDITY:					<u>1.1</u>				
	<u>269984</u>	<u>16:20</u>	<u>12ft</u>	<u>2</u>	<u>2.2</u>	<u>N/A</u>	<u>Flood</u>	<u><15 ft from curtain</u>	<u>Disposal</u>
	<u>815501</u>	<u>16:20</u>		<u>6</u>	<u>1.4</u>				
		<u>16:20</u>		<u>10</u>	<u>2.1</u>				
AVERAGE TURBIDITY:									
AVERAGE TURBIDITY:									
AVERAGE TURBIDITY:									
AVERAGE TURBIDITY:									

DOWN-CURRENT

Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTU)	GPS FILE NAME	TIDAL STAGE	DISTANCE FROM DREDGE/PILT CURTAIN	NUMBER OF HOURS DREDGING
	<u>2699747</u>	<u>14:52</u>	<u>12ft</u>	<u>2</u>	<u>1.4</u>	<u>N/A</u>	<u>Flood</u>	<u><15 ft</u>	<u>4</u>
	<u>817884</u>	<u>14:52</u>		<u>6</u>	<u>2.1</u>				
		<u>14:52</u>		<u>10</u>	<u>2.1</u>				
TURBIDITY INCREASE:									
	<u>2696542</u>	<u>16:55</u>	<u>13ft</u>	<u>2</u>	<u>4.2</u>	<u>N/A</u>	<u>Flood</u>	<u><15 ft from curtain</u>	<u>Disposal</u>
	<u>816460</u>	<u>16:55</u>		<u>7</u>	<u>1.8</u>				
		<u>16:55</u>		<u>11</u>	<u>2.4</u>				
TURBIDITY INCREASE:									
TURBIDITY INCREASE:									
TURBIDITY INCREASE:									
TURBIDITY INCREASE:									

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT: 66015 New Bedford Harbor - Navigational Dredging @ LINBERG MARINE
 JOB NUMBER: 8615.007.01
 DATE: 6/6/09
 MONITORS: 3#2
 WEATHER CONDITIONS:
 WIND:
 PRIOR STORM EVENTS:
 DREDGE UPDATE:
 TYPE OF WATER QUALITY MONITORING: DREDGE / DISPOSAL
 TIDE High: 07:41, 20:03 Low: 01:20, 12:42

Dredge Water Quality Monitoring Form



UP-CURRENT

Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTU)	GPS FILE NAME	TIDAL STAGE	TYPE OF WOM & DISTANCE FROM LOCATION	NUMBER OF HOURS DREDGING
	2693349	1405	19ft	2	1.5	N/A	Flood	<15 ft from curtain	<1
	818016	1405		10	1.1				
		1405		17	1.8				
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						

DOWN-CURRENT

Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTU)	GPS FILE NAME	TIDAL STAGE	DISTANCE FROM DREDGE/SILT CURTAIN	NUMBER OF HOURS DREDGING
	2693626,	1430	13ft	2 ft	2.4	N/A	Flood	<15 ft from Silty curtain	<1
	817905	1430		6 ft	6.9				
		1430		11 ft	2.0				
			TURBIDITY INCREASE:						
			TURBIDITY INCREASE:						
			TURBIDITY INCREASE:						
			TURBIDITY INCREASE:						
			TURBIDITY INCREASE:						

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT: 6615 New Bedford Harbor - Navigational Dredging @ Disposal
 JOB NUMBER: 0615.007.01
 DATE: 6/12
 MONITORS: JER
 WEATHER CONDITIONS:
 WIND:
 PRIOR STORM EVENTS:
 DREDGE UPDATE:
 TYPE OF WATER QUALITY MONITORING: DREDGE / DISPOSAL
 TIDE High: 11:48, 23:49 Low: 05:03, 17:02

Dredge Water Quality Monitoring Form



Disposal

UP-CURRENT

Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	TYPE OF WQM & DISTANCE FROM LOCATION	NUMBER OF HOURS DREDGING
	2695988,	8:40	11 ft	2 ft	2.2	N/A	Flood	Tied to silt curtain	N/A
	815498	8:40		5 ft	2.0				
		8:40		9 ft	5.0				
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						

DOWN-CURRENT

Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTU)	GPS FILE NAME	TIDAL STAGE	DISTANCE FROM DREDGE/SILT CURTAIN	NUMBER OF HOURS DREDGING
	2696518, 815512	0915 0915 0915	12ft	2 ft 6 ft 10 ft	2.5 2.1 4.9	N/A	Flood	Tied to silt curtain	N/A
			TURBIDITY INCREASE:						
			TURBIDITY INCREASE:						
			TURBIDITY INCREASE:						
			TURBIDITY INCREASE:						
			TURBIDITY INCREASE:						
			TURBIDITY INCREASE:						

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT: 6603 New Bedford Harbor - Navigational Dredging @ Old North Wharf (North Pierhead) Dredge Water Quality Monitoring Form
 JOB NUMBER: 6615.007.01
 DATE: 6/22
 MONITORS:
 WEATHER CONDITIONS:
 WIND:
 PRIOR STORM EVENTS:
 DREDGE UPDATE:
 TYPE OF WATER QUALITY MONITORING: DREDGE / DISPOSAL
 TIDE High: 8:01, 16:24 Low: 01:30, 13:20

UP-CURRENT									
Monitoring ID #	NORTHING/ EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	TYPE OF WGN & DISTANCE FROM LOCATION	NUMBER OF HOURS DREDGING
	26093532, 818082	11:15 11:15 11:16	17ft	2 ft 9 ft 15 ft	2.28 0.92 1.90	N14	Ebb	<200 ft from dredge	1
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						

DOWN-CURRENT									
Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTU)	GPS FILE NAME	TIDAL STAGE	DISTANCE FROM DREDGE/SILT CURTAIN	NUMBER OF HOURS DREDGING
	2643488, 818090'	10:35 11:35 12:35	1.8ft	2ft 5ft 16ft	0.10 1.36 2.85	N/A	Ebb	~200 ft from dredge	1
			TURBIDITY INCREASE:						
			TURBIDITY INCREASE:						
			TURBIDITY INCREASE:						
			TURBIDITY INCREASE:						
			TURBIDITY INCREASE:						

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

Gifted 9/ (6-1)

TIDE	High: 04:40	7:10	Low: 10:09	29:49
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Dredge Water Quality Monitoring Form



UP-CURRENT

Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	TYPE OF WORM & DISTANCE FROM LOCATION	NUMBER OF HOURS OF RECORDING
	2087527	16:45	12ft	2 ft	0.63	N/A	Flood	<200 ft from bridge	1
	816470	16:45		5 ft	1.88				
		16:45		10 ft	4.30				
			AVERAGE TURBIDITY:						

AVERAGE TURBIDITY:

AVERAGE TURBIDITY:

AVERAGE TURBIDITY:

AVERAGE TURBIDITY:

DOWN-CURRENT

Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTU)	GPS FILE NAME	TIDAL STAGE	DISTANCE FROM DREDGE/BLT CURTAIN	NUMBER OF HOURS DREDGING
	2687121	17:15	11A	2 ft	5.58	N/A	Flood	2200 ft from barge	1
	816415	17:15		6 ft	4.89				
		17:15		9 ft	5.33				
			TURBIDITY INCREASE:						

TURBIDITY INCREASE:

TURBIDITY INCREASE:

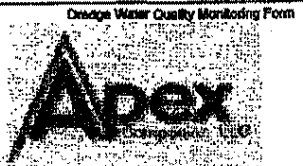
TURBIDITY INCREASE:

TURBIDITY INCREASE:

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

NBM Navigational Dredging VQM Spreadsheet

PROJECT: 6015 New Bedford Harbor - Navigational Dredging @ G-1 Gifford St.
 JOB NUMBER: 8616.007.01
 DATE: 7/15/09
 MONITORS: 1FR
 WEATHER CONDITIONS:
 WIND:
 PRIOR STORM EVENTS:
 DREDGE UPDATE:
 TYPE OF WATER QUALITY MONITORING: DREDGE / DISPOSAL
 TIDE High: 1:42, 15:24 Low: 07:06, 20:08



UP-CURRENT									
Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTU)	GPS FILE NAME	TIDAL STAGE	TYPE OF WQM & DISTANCE FROM LOCATION	NUMBER OF HOURS DREDGING
	816454,	1358	6ft	2 ft	1.6	N/A	Flood	~200 ft from dredge	< 1
	2687223	1358		3 ft	2.0				
		1358		4 ft	2.3				
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						

DOWN-CURRENT									
Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTU)	GPS FILE NAME	TIDAL STAGE	DISTANCE FROM DREDGE/SILT CURTAIN	NUMBER OF HOURS DREDGING
	816413,	1405	8ft	2 ft	4.7	.N1A	Flood	< 200 ft from dredge	< 1
	2687594	1405		4 ft	5.2				
		1405		6 ft	6.8				
			TURBIDITY INCREASE:						
			TURBIDITY INCREASE:						
			TURBIDITY INCREASE:						
			TURBIDITY INCREASE:						
			TURBIDITY INCREASE:						

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity
 NBH Navigational Dredging WQM Spreadsheet

PROJECT: 6615 New Bedford Harbor - Navigational Dredging @ Warren Alexander South
 JOB NUMBER: 0615.007.01
 DATE: 7/17/09
 MONITORS:
 WEATHER CONDITIONS:
 WIND:
 PRIOR STORM EVENTS:
 DREDGE UPDATE:
 TYPE OF WATER QUALITY MONITORING: DREDGE / DISPOSAL
 TIDE High: 03:36, 16:07 Low: 09:07, 22:44



UP-CURRENT

Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTU)	GPS FILE NAME	TIDAL STAGE	TYPE OF WQM & DISTANCE FROM LOCATION	NUMBER OF HOURS DREDGING
	2677401,	1346	19ft	2ft	1.46	N/A	Flood	2200ft from dredge	2
	814498	1348		9ft	1.82				
		1346		17ft	3.11				
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						

DOWN-CURRENT

Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTUs)	GPS FILE NAME	TIDAL STAGE	DISTANCE FROM DREDGE/SILT CURTAIN	NUMBER OF HOURS DREDGING
	2697611,	1403	17ft	2 ft	2.61	NA	Flood	2200 ft from dredge	2
	814482	1405		8 ft	0.96				
		1405		15 ft	1.21				
			TURBIDITY INCREASE:						
			TURBIDITY INCREASE:						
			TURBIDITY INCREASE:						
			TURBIDITY INCREASE:						
			TURBIDITY INCREASE:						

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT: 1665 New Bedford Harbor - Navigational Dredging @ South Terminal
 JOB NUMBER: 6515.007.01
 DATE: 7/22/07
 MONITORS:
 WEATHER CONDITIONS:
 WIND:
 PRIOR STORM EVENTS:
 DREDGE UPDATE:
 TYPE OF WATER QUALITY MONITORING: ☒ DREDGE / ☐ DISPOSAL
 TIDE High: 0836, 2100 Low: 0227, 1407

On-dredge Water Quality Monitoring Form



UP-CURRENT								
Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTU)	GPS FILE NAME	TIDAL STAGE	TYPE OF WQM & DISTANCE FROM LOCATION
	2689034, 816181	1335	19ft	2ft	2.62	N/A	Ebb	< 200 ft from dredge
		1335		9ft	1.89			
		1335		17ft	5.27			
					AVERAGE TURBIDITY:			
					AVERAGE TURBIDITY:			
					AVERAGE TURBIDITY:			
					AVERAGE TURBIDITY:			
					AVERAGE TURBIDITY:			

DOWN-CURRENT								
Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTU)	GPS FILE NAME	TIDAL STAGE	DISTANCE FROM DREDGE/SILT CURTAIN
	2688796, 816234	1400	21ft	2ft	2.84	NA	Ebb	< 200 ft from dredge
		1400		10ft	2.35			
		1400		19ft	3.71			
					TURBIDITY INCREASE:			
					TURBIDITY INCREASE:			
					TURBIDITY INCREASE:			
					TURBIDITY INCREASE:			
					TURBIDITY INCREASE:			

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT: 0015 New Bedford Harbor - Navigational Dredging @ South Terminal
 JOB NUMBER: 8615.007.01
 DATE: 7/23/09
 MONITORS:
 WEATHER CONDITIONS:
 WIND:
 PRIOR STORM EVENTS:
 DREDGE UPDATE:
 TYPE OF WATER QUALITY MONITORING: (DREDGE) / DISPOSAL
 TIDE High: 9:25 Low: 08:14, 15:05
21:51

Dredge Water Quality Monitoring Form



UP-CURRENT											
Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTU)	GPS FILE NAME	TIDAL STAGE	TYPE OF WQM & DISTANCE FROM LOCATION	NUMBER OF HOURS DREDGING		
	26858921	1530	22ft	2ft	3.16	N/A	Ebb	< 200ft	~1		
	814242	1530		12ft	3.80						
		1530		20ft	4.89						
			AVERAGE TURBIDITY:								
			AVERAGE TURBIDITY:								
			AVERAGE TURBIDITY:								
			AVERAGE TURBIDITY:								
			AVERAGE TURBIDITY:								

DOWN-CURRENT									
Monitoring ID #	NORTHING/ EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTU)	GPS FILE NAME	TIDAL STAGE	DISTANCE FROM DREDGE/SILT CURTAIN	NUMBER OF HOURS DREDGING
	2685916,	1540	21ft	2ft	3.09	N/A	Ebb	< 200ft	~1
	816326	1540		12ft	3.53				
		1540		19ft	3.48				
			TURBIDITY INCREASE:						
			TURBIDITY INCREASE:						
			TURBIDITY INCREASE:						
			TURBIDITY INCREASE:						
			TURBIDITY INCREASE:						

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

PROJECT: 6615 New Bedford Harbor - Navigational Dredging 2 SOUTH TERMINAL
 JOB NUMBER: 0615.007.01
 DATE: 8/12/09
 MONITORS:
 WEATHER CONDITIONS:
 WIND:
 PRIOR STORM EVENTS:
 DREDGE UPDATE:
 TYPE OF WATER QUALITY MONITORING: DREDGE / DISPOSAL
 TIDE High: 1:17, 13.42 Low: 6:28, 14.31

Dredge Water Quality Monitoring Form



UP-CURRENT									
Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTU)	GPS FILE NAME	TIDAL STAGE	TYPE OF WQM & DISTANCE FROM LOCATION	NUMBER OF HOURS DREDGING
	816152,	17:48	21ft	2ft	0.75	N/A	Ebb	~200 ft from dredge	2
	268962	17:49		10ft	0.84				
		17:48		19ft	2.11				
AVERAGE TURBIDITY:									
AVERAGE TURBIDITY:									
AVERAGE TURBIDITY:									
AVERAGE TURBIDITY:									

DOWN-CURRENT									
Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTU)	GPS FILE NAME	TIDAL STAGE	DISTANCE FROM DREDGE/BLY CURTAIN	NUMBER OF HOURS DREDGING
	816253,	18:05	20ft	2 ft	1.89	N/A	Ebb	~200 ft from dredge	2
	2688671	18:06		10 ft	2.02				
		18:05		18 ft	2.83				
TURBIDITY INCREASE:									
TURBIDITY INCREASE:									
TURBIDITY INCREASE:									
TURBIDITY INCREASE:									

* Turbidity Increase = Down-Current Average Turbidity - Up-Current Average Turbidity

NBH Navigational Dredging WQM Spreadsheet

PROJECT: **6615** New Bedford Harbor - Navigational Dredging @

JOB NUMBER: 8615.007.01

DATE: 5/20/04

MONITORS:

WEATHER CONDITIONS:

WIND:

PRIOR STORM EVENTS:

DREDGE UPDATE:

TYPE OF WATER QUALITY MONITORING: DREDGE / DISPOSAL

TIDE High: 2:00 PM - 3:00 PM Low:

Drinking Water Quality Monitoring Form



UP-CURRENT

Monitoring ID #	NORTHING/EASTING	TIME	TOTAL WATER DEPTH (ft)	SAMPLE DEPTH (ft)	TURBIDITY (NTU _s)	GPS FILE NAME	TIDAL STAGE	TYPE OF WORK & DISTANCE FROM LOCATION	NUMBER OF HOURS DREDGING
	814583,	1425	18ft	2 ft	3.15	N/A	Flood	~300 ft from dredge	4
	2697355	1425		7 ft	2.47				
				16 ft	1.21				
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						
			AVERAGE TURBIDITY:						

DOWN-CURRENT

[illegible]
$$^* \text{Turbidity Increase} = \text{Down-Current Average Turbidity} - \text{Up-Current Average Turbidity}$$
NBH Navigational Dredging WQM Spreadsheet:

